PU030161 (JP9325928) ON 8633

(19) Patent Agency of Japan (JP)

(12) Official report on patent publication (A)

(11) Publication number: 9-325928

(43) Date of publication of application: 16.12.1997

(51) Int.Cl.　G06F 13/00　G06F 13/00　G06F 17/21

(21) Application number: 8-165184

(22) Date of filing: 06.06.1996

(71) Applicant: Fuji Xerox Co LTD

(72) Inventor: Hidaka Tsugutomo

(54) Title of the invention: Method and equipment for communicating message

(57) Abstract:

Problem to be solved: To perform the whole or most of message communication processing while using a software by executing their own functions at respective stations according to a message when that message is received, determining the station of the next transmission destination and transmitting the message.

Solution: As the next processing of a program to be executed by a message interpretation executing part, the whole message including the program under executing is transmitted to a station parameter, namely, job ticket server 111. When this line is processed by the message interpretation executing part, the values of all the parameters in the current program and the line to be next executed are stored in a control information file.

Next, the name of station of the transmission source and the name of station of the transmission destination are described in a history managing file together with the date and time. Afterwards, respective files consisting of the message are successively sent to a message transmission part. Then, the message is transmitted to the target job ticket server equipment 111.

[Claims]

[Claim 1] It is a message communication method which communicates a message among a plurality of stations with various functions connected to a network, when the mentioned above message includes information about the contents of processing used combining a function of several different stations and the mentioned above message is received, each station carries out a self function according to the message and a message communication method determining the next transmission destination station and transmitting the mentioned above message to the transmission destination station.

[Claim 2] The message communication method according to claim 1 assembling a message and transmitting to the next station characterized by including an omissible control information part managed so that the contents of processing in which a message includes a message content transmitted at once may be operated at a plurality of stations, a behavioral description part which has the behavioral description

program which described operation performed at a station, an omissible history control department holding information about the contents of processing performed in a station and its result, a received station a message by a conveyance content block holding a parameter used for information or processing which is the target of processing constituting the mentioned above behavioral description program of a behavioral description part, or it is newly creating processing or and setting up information required for a conveyance content block about a parameter held to a behavioral description program or a conveyance content block of a behavioral description part while operating a station according to either of the parameters held at a conveyance content block or both description.

[Claim 3] The message communication method according to claim 1 or 2 when a message is sent to the first station used as a cause and the first station receives a message in connection with a message which transmitted previously characterized by that a series of message communications are completed, a message sent from the first station, certainly start the next message communication and by one of stations.

[Claim 4] The message communication method according to claim 1 or 2 carrying out message transmission of the situation used as an error to the first transmission station used as a cause of a series of message transmission, when a message is received and

an error generates the message during processing or message communication to the next station.

[Claim 5] The message communication method according to claim 2 or 3 characterized by holding a station name which created a message from the first to a control information part in a message, an implementator name and a password and the following purpose station name when a message is sent out to the next transmission destination station.

[Claim 6] The message communication method according to claim 2 continuing one behavioral description part program from the middle and operating it at a plurality of stations, by holding a value of the present variable currently used for a control information part in a message by a behavioral description part program with a row number which should be performed to the next of a behavioral description part program, when a message is sent out to the next transmission destination station,.

[Claim 7] The message communication method according to claim 2 characterized by that a program or each station of a behavioral description part which carries out message transfer uses for an operating condition judging with reference to information described by history control part, when between stations is transmitted to a message one by one, by a program of a behavioral description part in a message or specification of a parameter of a conveyance content

block in a message. Or the result is automatically described to be the contents of processing performed in a station in a history control department of a message at each station.

[Claim 8] The message communication method according to claim 2 choosing a program which processes a message according to a conveyance content block from a plurality of message processing programs currently prepared preliminary and processing the whole message, in a station which received a message when a behavioral description part of a message delivered was omitted.

[Claim 9] The message communication method according to claim 2 with which a simple movement directive command is characterized by performing closed processing for which it opted preliminary at a station which received a message according to a job ticket which consists of what was described as a parameter, when a behavioral description part of a message delivered is omitted, as 1st conveyed object of a conveyance content block.

[Claim 10] The message communication method according to claim 2 performing free word processing within a network, document information of a page which becomes a conveyance content block from information for one sheet of document paper, a document which consists of a plurality of pages or a

book which consists of a plurality of documents and a unit by making maintenance possible.

[Claim 11] The message communication method according to claim 2 assembling a plurality of complicated processings freely and being able to perform them simultaneously by generating a station under the execution as a starting point, sending it out and referring to a plurality of results after a plurality of the messages finished processing and have returned altogether, at a received station, a message, a behavioral description part program or while performing processing based on the mentioned above conveyance content block job ticket, at a station under the execution a new message other than a message under present processing.

[Claim 12] The message communication method according to claim 11 made into a behavioral description part of a message which generated block job automatically described in a behavioral description part of a message and was newly generated within a message processing part based on information acquired with reference to a database device on it and a network, when generating the mentioned above new message, about block job described in a behavioral description part of a newly generated message. According to a parameter of description, to a conveyance content block job ticket, a parameter of description to a conveyance content block job ticket.

[Claim 13] The message communication method according to claim 12 performing condition determination of being ability ready for sending and carrying out transmission of the new message created to a parameter of description to a job ticket simultaneously, when generating a plurality of new messages according to the mentioned above procedure according to claim 12, it waits to carry out transmitting processing of these a plurality of messages simultaneously or for a result of the first message to come back, when it processes one message at a time in order or specification is made possible in parameter of description to a conveyance content block job ticket and there is no description in a job ticket.

[Claim 14] The message communication method according to claim 1 or 2 using for transmission and reception of a message a known E-mail transfer means already built in a network.

[Claim 15] The message communication method according to claim 1 or 2 using for transmission and reception of a message a known network file transfer means already built in a network.

[Claim 16] The message communication method according to claim 1 or 2 using for transmission and reception of a message a known network printing spool means already built in a network.

[Claim 17] The message communication method according to claim 1 or 2 using for transmission and reception of a message the known Internet file transfer means already built in a network.

[Claim 18] The message communication method according to claim 1 distinguishing the optimal means for each receiving station at the time of messaging and using it according to data base information on a network and the contents of the message to transmit, to transmission and reception of a message, an E-mail transfer means, a network file transfer means, out of a network printing spool means and the Internet file transfer means.

[Claim 19] The message communication method according to claim 2 characterized by referring to this at the time of transmission to a message transmission point station, each station linked to a database device linked to a network or a network, when it has the database function which described a network address of each station in a network or some stations, a server function and a message reception method and a program of a behavioral description part is processed.

[Claim 20] The message communication method according to claim 19 performing database reference again, asking for the new message transmission point and performing message transfer to the new transmission destination station in the receiving station,

when a station which received a message is not filling required business as a receiving station of the message.
[Claim 21] The message communication method according to claim 1 making easy message communication to a partner station the whereabouts of whose is unknown by sending a message to the target station, in message communication, in sending out a message to a station the whereabouts of whose is unknown, transmitting a message to a message server linked to the Internet in which a network in the world and connection are possible and information about a destination station the whereabouts of whose is unknown is retrieved on the Internet in the message server.
[Claim 22] The message communication method according to claim 21 which transmits a retrieval situation used as an error to a transmission station of the beginning of a message as an error when the whereabouts of the target station is unknown as a result of searching an Internet.
[Claim 23] A message processing means for delivering a message to each of a plurality of stations connected to a network is formed, the mentioned above message includes information about the contents of processing which should be performed in a station of a series in information about a transmission destination station of a message itself for being passed and going between stations in a network and a network and each message

processing means, when a message is received, while performing interpretation executive operation of the message which received and determining a transmission destination of the mentioned above message, message communication equipment processing the mentioned above message based on a result of the execution till then or assembling a new message and having a processing capability which transmits this to the mentioned above determined transmission destination station.

[Claim 24] The message communication equipment according to claim 23 including a message interpretation execution part which assembles a message characterized by including a control information part which manages a message content delivered at once so that a message may be made to process at a plurality of stations, a behavioral description part which has the behavioral description program which described operation at a station of a message, a history control department holding information about the contents of processing performed in a station and its result, a conveyance content block holding document information constitutes and a message processing means, the mentioned above behavioral description program of a behavioral description part. While operating a station according to either of the parameter files held at a conveyance content block or both description or a behavioral

description program of a behavioral description part or it is processing or newly creating and setting up information required for a conveyance content block about a parameter file held to a conveyance content block.

[Claim 25] The message communication equipment according to claim 24 including a local database means for the mentioned above message processing means to hold information about a station on a network, to answer an inquiry of a message interpretation execution means and to provide required information.

[Claim 26] The message communication equipment according to claim 24 including a database reference means by which information about a station which the mentioned above message processing means answers an inquiry of a message interpretation execution means, accesses a database on a network and is on a network comes to hand.

[Claim 27] The message communication equipment according to claim 24 characterized by that the mentioned above message processing means has a job ticket processing means to create a message for performing the job newly, for every job described in a job ticket of a conveyance content block of a message.

[Detailed description of the invention]

[0001] [Field of the invention] In this invention, LAN (local area network) or a plurality of LAN, a dedicated line to the network which made WAN (Wide Area Network) connection with the public line, connecting a client device, an edit server device, a picture file server device, a database server device, a print server device and a job ticket server device and by carrying out coordinated movements, it is related with the information transmission method and device in the system which provides the input of document data, accumulation, edit, document-format conversion, transmission and a print output function.

[0002] [Description of the prior art]

1. Draw up a document manuscript electronically using computers including the printing method word processor in electronic publishing business and high definition printers including a laser beam printer are used, the printing method in the electronic publishing business realized by printing a document image to an output paper has the following two kinds of methods from the former.

[0003] (a) What is performed by carrying out data transfer to a printer and carrying out a print output to it from the computer peripheries which drew up the manuscript at every necessity for printing.

[0004] (b) What is performed when the drawn-up manuscript is once sent into a file server device and is kept and the printout from next time transmits document image data to a printer from a file server device.

[0005] As an example in the former case is given in JP 4-314122 A, for example. As an example in the latter case is given in JP 5-298419 A, for example. In the latter case, in a form suitable for the printer outputted preliminary. Since it is possible to change and keep the inputted document information, once the more beautiful printout draws up and saves the document of printer form again, about the re-output from next time, there is an advantage that it is more possible at a high speed.

[0006] In electronic publishing business, in order to print the same manuscript picture in large quantities in many cases, the latter method is used frequently. When based on the latter method, it was the problem to which it accustoms if two steps of procedures, such as registration storage processing to the file server device of the drawn-up document manuscript and a search output process from a file server device to a printer, are not stepped on.

[0007] 2. In special electronic publishing business as the client-server database preceding clause shows, it is common to carry out registration storage of the created document manuscript preliminary at the file server, to search the file server if needed and to acquire the

information about a required document manuscript. In managing for the purpose of generally carrying out the search output of a lot of document information by a plurality of clients which are used on electronic publishing business, as shown on JP 5-73449 A, it uses a client-server database system. In the client-server database, since the data transfer between client = servers happens frequently, with art given in JP 5-73449 A, improvement in the speed of processing is achieved by blocking collectively, transmitting and receiving a data manipulation language and a processing result. A plurality of database servers exist, the target document is contained where or when unknown, a client does not have a database accessing means, but, according to existence of a database server, it cannot use, when it does not have detailed information as the name of the device about the whereabouts of a server and the name of a network address and a database.

[0008] In JP 6-208583 A, the document retrieval to a multiple server may be performed by transmitting a search condition one by one from the 3rd device to the electronic file by which network connection was carried out. It cannot use, when a client knows neither the case where a client does not have a database accessing means, nor the detailed information about the whereabouts of a database server.

[0009] 3. Although the example which needs to hold the detailed information about a database server in a database system by the client side to be used was raised with the output preceding clause of a plurality of printers, the same thing can be said also about the output of printer through a network. If the case where the output documents manuscript explained by the 1st the mentioned above paragraph is directly sent into the printer on a network from a client is made into an example, the output instruction to a printer, it realizes by sending output documents data in with the option at the time of outputs, such as the number of outputting parts and a size of the paper to print. The client outputted at this time must know and place the information on the printer which carries out a print output, the name of a device, a network address and a printer kind. It must prepare according to the kind of printer outputted about the format of the output data to send out.

[0010] By establishing the output means which outputs to the exterior the document information which judged printing not to be itself that such a problem should be solved from an interface means according to JP 5-193231 A, it is made to make various printers usable only by adding an easy function. However, the client must know the information of the name of the device about an output unit (print server) and network address which should send document data first in this case.

Since it is once outputted to the exterior from an interface means when judged with the ability of this document not to be outputted with the device which received document data, the problem that time takes at the time of the print output of a mass data is generated too.

[0011] By the connection controller in a printer monitoring system, art given in JP 5-290004 A solves such a problem and is considered as being outputted to the always optimal printer. In the environment where this art sends the mentioned above output-documents manuscript into the printer on a network directly from a client, «The printer of the same kind» which receives the same output format is the thing by which a plurality of network connection is carried out and which employs a printer efficiently in environment, it is not taken into consideration about the print processing after data accumulation which was explained by the 1st the mentioned above paragraph and which is frequently performed by electronic publishing and the proper use of a plurality of kind printer which receives a different data format.

[0012] 4. There is information transmission method given in JP 6-301577 A as advanced technology comparatively near the message communication method of this invention. It aims at acquiring the specified information out of a network by sending in the software called an «agent» to a large-scale network like an

electronic bulletin board (BBS). However, in this example, it is not clarified about the method of sending document information into the file server in a network and the method of outputting the document information in a network to the printer in a network.

[0013] There is a search output system which used the facsimile machine (FAX) like JP 5-204986 A as other conventional examples. Although it connects with communication media at a host computer using FAX and retrieval processing is performed in this example, when the target search information does not exist in the connected host computer, it is not taken into consideration about the processing which transmits retrieval sheets to other computers and the input process of information and transmission processing of information.

[0014] Also JP 6-187261 A is not taken into consideration about the retrieval processing of a plurality of computers and the output instruction to a printer, although it is the art of connecting with a host computer via a network line using a personal information terminal, without using FAX and searching personal information. In addition, the example of the print output directions by an electronic mail means is indicated by JP 5-2541 A. There is an example of the data transfer to the print server by a network file transfer means instead of network printing transmission at JP 6-161677 A.

Neither is taken into consideration about the processing which transmits retrieval sheets to other computers and the input process of information and transmission processing of information.

[0015]

[Problems to be solved by the invention] An object of this invention is to solve the problem of the above conventional technologies. That is, this invention makes it a technical problem to obtain the message communication method and device for utilizing the resources on a network effectively. A device in which this invention has a different function in some numbers on a network if it puts in another way, it is a technical problem to obtain the device used for operation of a message communication method for making (for example, a file server device, a print server device, a database server device, and so on) cooperate through exchange of a message and processing and using them and a method for the same. If it is considered as the processing which made a plurality of devices cooperate, there is the following.

(a) A series of «search» and «edit» which continue and use a plurality of server device on a network, «output» processing or «input», «edit» and «output» processing is performed at once. (b) The output process to multiple printers. (c) The output process to a plurality of kind printers. (c) Continuation retrieval processing of multiple file servers.

(d) Retrieval processing which does not specify a server. This invention makes it a technical problem to obtain the message communication method and device which can assemble easily the message for realizing processing of the request on a network and can send it.

[0016] This invention makes it a technical problem to obtain the correspondence procedure and device of a message independent of the kind of the printer and filing device linked to a network, the network connection method and an operating system.

[0017] This invention makes it a technical problem to obtain the method and device which can assemble easily the message for performing processing which made the mentioned above a plurality of devices cooperate and can send it.

[0018] This invention makes it a technical problem introduction of a new device and for change to become easy and to enable construction of a network system freely to each device on a network by providing simplicity and the correspondence procedure which is equivalent and free and is consistent.

[0019] By making the load of the resources of each device on a network reduce, this invention makes the throughput which can be performed simultaneously increase and makes it a technical problem to accelerate processing as the whole system as a result.

[0020] This invention makes it a technical problem to realize such message handling, without adding a major change to the existing network environment.

[0021] This invention can realize all of message handling or many of portions using software and makes it a technical problem to enable it the expense generated as a result and to lower a man day.

[0022] [Means for solving the problem and its function] A message communication method of this invention is a message communication method which communicates a message among a plurality of stations with various functions connected to a network, when the mentioned above message includes information about the contents of processing used combining a function of several different stations and the mentioned above message is received, each station carries out a self function according to the message and. The next transmission destination station is determined and the mentioned above message is transmitted. Message communication equipment for enforcing a message communication method of the mentioned above invention, a message processing means for delivering a message to each of a plurality of stations connected to a network is formed, the mentioned above message includes information about the contents of processing which should be performed in a station of a series in information about a transmission destination station of a message itself for being passed and going between stations in a network

and a network and each message processing means, when a message is received, while performing interpretation executive operation of the message which received and determining a transmission destination of the mentioned above message, the mentioned above message is processed based on a result of the execution till then or a new message is assembled and it has a processing capability which transmits this to the mentioned above determined transmission destination station. According to a message communication method and message communication equipment of this invention, a message includes information about the contents of processing performed by cooperating at several different stations and delivers this message between stations one by one. By performing processing of charge according to a message and passing a message to the next station, cooperation of processing of a station of a station which received a message is achieved and it can realize easily complicated processing which exploited network resources effectively. For example, not to mention a re-output of a changed document in printer form, processing which describes a maker, a creation date and document information like a document name and registers a manuscript document into a file server device, 1 page of processing which specifies editing processing of number of copies, an output paper and scaling and outputs the document to a desired print server is

corrected among processing performed at once and a document already changed and kept in printer form, it re-registers and execution of processing in which it outputs to a desired print server is achieved at once with easy directions. Since a communication device of this invention is the equipment configuration of adding a message processing part which provides a common function to stations, such as each client, each server device linked to a network, a system using this invention can be constituted easily.

[0023] An omissible control information part managed so that this invention may operate the contents of processing in which a message includes a message content transmitted at once in the mentioned above message communication method or a device at a plurality of stations, behavioral description part which has the behavioral description program which described operation performed at a station, a conveyance content block holding a parameter used for information or processing which is an omissible history control department holding information about the contents of processing performed in a station and its result and the target of processing constitutes. A station which received a message and the mentioned above behavioral description program of a behavioral description part. While operating a station according to either of the parameters held at a conveyance content block or both description or a behavioral description program of a

behavioral description part or a message which includes processing or newly creating and setting up information required for a conveyance content block for a parameter held to a conveyance content block is assembled and it transmits to the next station. Message communication by this invention divides a message into the mentioned above 4 message component part omissible, respectively, since processing of default of each message component part can be defined clearly and description of an unimportant portion and the portion same each time can be excluded, at the first station using message processing, it becomes possible to assemble and send a message easily.

[0024] According to other features of this invention, a message sent from the first station in the mentioned above message communication method, certainly start the next message communication and by one of stations. A message is sent to the first station used as a cause and when the first station receives a message in connection with a message which he transmitted previously, it constitutes so that a series of message communications may be completed. When according to other features of this invention a message is received and an error generates the message during processing or message communication to the next station, message transmission of the situation used as an error is carried out to the first transmission station used as a cause of a series of message transmission.

Since a result of the processing will certainly return if the first station transmits a message, a message can be repeated and transmitted to a plurality of stations (server), a plurality of messages can be transmitted simultaneously or complicated processing can be realized.

[0025] According to other features of this invention, when a message is sent out to the next purpose station, a station name which created a message from the first to a control information part in a message, an implementator name and a password and the following purpose station name are held. Thus, accidentally, even if it is a case where a message is sent to other purpose stations, it becomes possible to transmit to the right purpose station. When it becomes an unrecoverable error, message transmission is carried out to the first transmission station (originator) and it becomes possible to notify a maker. At a station of the message transmission point, when using a function in which operation is restricted, distinction of whether a permission is granted is achieved.

[0026] According to other features of this invention, when a message is sent out to the next purpose station, a value of the present variable currently used for a control information part in a message by a behavioral description part program with a row number which should be performed to the next of a behavioral description part program is held.

By this, one behavioral description part program can be continued from the middle and can be operated at a plurality of stations.

[0027] When between stations is transmitted to a message one by one according to other features of this invention, by a program of a behavioral description part in a message or specification of a parameter of a conveyance content block in a message. Or a program or each station of a behavioral description part which describes and carries out message transfer to a history control department of a message uses for an operating condition judging automatically the contents of processing performed in a station and its result with reference to information described by history control department at each station.

[0028] In a station which received a message when a behavioral description part of a message received and passed was omitted according to other features of this invention, a program which processes a message according to a conveyance content block is chosen from a plurality of message processing programs currently prepared preliminary and the whole message is processed. This is enabled to describe and direct message activity simple and it becomes easy to assemble and send a message which processes hope at a station using message processing.

[0029] When a behavioral description part of a message received and passed is omitted according to other features of this invention, as 1st conveyed object of a conveyance content block, a job ticket in which a simple movement directive command was described as a parameter is used and closed processing for which it opted preliminary is performed at a station which received a message according to a parameter described by it. This is enabled to describe and direct message activity simple and it becomes easy to assemble and send a message which processes hope at a station using message processing.

[0030] A page which becomes a conveyance content block from information for one sheet of document paper according to other features of this invention or free word processing within a network is performed by enabling a plurality of maintenance of document information of a document which consists of a plurality of pages or a book which consists of a plurality of documents and a unit.

[0031] In a message reception station according to other features of this invention, while performing processing based on a behavioral description part program or the mentioned above conveyance content block job ticket, at a station under the execution, a plurality of stations under the execution are generated as a starting point, a new message other than a message under present processing is sent out and a result is referred to, after a

plurality of the messages finished processing and have returned altogether. Thus, a plurality of complicated processings can be assembled freely and can be performed simultaneously.

[0032] When generating the mentioned above new message according to other features of this invention, about block job described in a behavioral description part of a newly generated message. According to a parameter of description, to a conveyance content block job ticket, a parameter of description to a conveyance content block job ticket, based on information acquired with reference to a database device on it and a network, it is considered as a behavioral description part of a message which generated block job described in a behavioral description part of a message and was newly generated within a message processing part.

[0033] When generating a plurality of new messages according to the mentioned above procedure according to other features of this invention, it waits to carry out transmitting processing of these a plurality of messages simultaneously or for a result of the first message to come back, when it processes one message at a time in order or specification is made possible in description to a conveyance content block job ticket and there is no description in a job ticket, condition determination of being able ready for sending is performed simultaneously and transmitting of the new message

created to a parameter of description to a job ticket is carried out.

[0034] According to other features of this invention, known Internet file transfer, known E-mail transfer means already built in a network, known network file transfer means, known network printing spool means or means is used for transmission and reception of a message. Or out of these means, according to data base information on a network and the contents of the message to transmit, the optimal means for each receiving station is distinguished at the time of messaging and is used. Coexistence with the existing network environment of this utilizing the existing network environment as it is and performing message communication of this invention is possible.

[0035] A database device which was connected to a network according to other features of this invention, each station linked to a network or a network address of each station in a network or some stations, it has the database function which described a server function and a message reception method and this is referred to at a case where a program of a behavioral description part is processed and the time of transmission to a message transmission point station. Thus, a message transmission point station can be determined promptly.

[0036] When a station which received a message is not filling required business as a receiving station of the message according to other features of this invention, in

the receiving station, database reference is performed again, it asks for the new message transmission point and message transfer is performed to the new transmission destination station.

[0037] In sending out a message to a station the whereabouts of whose is unknown in message communication according to other features of this invention, transmitting a message to a message server linked to the Internet in which a network in the world and connection are possible and information about a destination station the whereabouts of whose is unknown is retrieved on the Internet in the message server, by sending a message to the target station, message communication to a partner station the whereabouts of whose is unknown is made easy.

[0038] According to other features of this invention, as a result of searching an Internet, when the whereabouts of the target station is unknown, a retrieval situation used as an error is transmitted to a transmission station of the beginning of a message as an error.

[0039] [Embodiment of the invention]

1. Entire configuration

In drawing 2, a plurality of LAN 201-203 to the network which made WAN (Wide Area Network) connection with the dedicated line and the public line. the example of composition of the outline of a system in which this invention which connected various processing devices, such as a client device, an edit

server device, a picture file server device, a data device, a print server device and a job ticket server device, is applied. Drawing 1 is a connection configuration drawing of each device of the example of a system for describing subsequent embodiments of the invention. Drawing 3 to drawing 8 is an internal configuration drawing of each device to connect. Drawing 9 and drawing 10 show the example of an internal configuration of a message processing part for processing the message transfer by invention with which each component is provided.

[0040] As shown on drawing 1, in this example of a system, LAN (Local Area Network), the router (inter LAN connection device) 181, 182 which connects the trunk 171, 172 and LAN and ATM line 191, the ATM dedicated line 191 which connects between LAN, the client device 101, the job ticket server device 111, 112, the picture file server 121, 122, the database server device 131, the print server device 141, 142, the printers 151, 152 and the edit server device 161.

[0041] Although all of each of devices of the above 101-161 are connected to a network as an independent dedicated device in this example, for example, in a workstation with a certain edit server function, when it also takes charge of the function of a job ticket server, it is also possible like in case a print server device also has a file server function to work a plurality of functions within the same physical device.

A unit with one network address which can operate the function of these plural equipments and a network identification name is next called especially a station. In this example, when some devices are provided with the job ticket server function and except when an edit server has a file server function, the station and the device are the same.

[0042] The name under the rectangular head showing each device is a station name. A station name is what added the domain name to the device name, as shown on drawing 11 and even if it is the environment in which much LAN and many devices carried out interconnection by connection between LAN, it can be identified. LAN-171 and LAN-172 are connected to another LAN from which logical management of each device in LAN differs in the example of a system of drawing 1. A domain is a logical unit which manages the group of each device in a network in this way. It combines with a station name and a user name describes, as shown on drawing 12. Server Name is described with a domain name, as shown on drawing 13.

[0043] 2. Explanation of each device.

[0044] 2.1. Client device (drawing 3).

The LAN data communication part 31 which a client device includes a personal computer, a workstation or a movable personal digital assistant and has a network connection function, in the usual client device provided

with data processing / control part 33, the information display part 34 that display information on a user like a display device and the information input part 35 which inputs the directions from a user like a mouse keyboard device, it has creation of the message of this invention by which it is characterized between data processing / control part 33 and the LAN data communication part 31 and the composition which formed the message processing part 32 which performs processing. In an example, the work which a user does in a client device is processing which carries out edit creation of the document image data used as the manuscript for transmitting at the time of creation of a message, transmission, reception of a processing result and registration storage of document image data. As a client device, the user beyond a binary name also assumes available environment simultaneously. That is, transmission and reception of a plurality of messages and document preparation are simultaneously possible by the multitasking feature of the operating system of a client device. In each client, message transmission origin is clarified and a user is identified by the user name so that a processing result can be certainly returned to the user who pointed. Next, in a certain device, when a certain user creates a message and transmits by a certain user name, it is the transmitting origin of a message and the device name to which the processing result or error situation of a message should

be returned and the user name in it is called an originator.

[0045] 2.2 Edit server device (drawing 4).

As shown on drawing 4 which includes a personal computer or a workstation, an edit server device, the LAN data communication part 41 with a network connection function and the data processing/control part 43 which performs processing for carrying out the function of an edit server and control, in the usual edit server device provided with the input-and-output picture temporary storage part 44 which stores the picture of an editing object and the image editing processing part 45 which performs image editing processing, it has creation of the message of this invention by which it is characterized between data processing / control part 43 and the LAN data communication part 41 and the composition which formed the message processing part 42 which performs processing. The image editing processing part 45 has a various image editing and image transformation function shown next.

- Expansion of image data, reduction, rotation, definition conversion.
- Compression of various format image data, extension.
- Form conversion of various format image data.
- The color space conversion of various format image data.

- Drawing processing of various color gradation conversion and a dither conversion process and various PDL data.

[0046] 2.3 Picture file server device (drawing 5).

As a picture file server device includes a personal computer or a workstation and it is shown on drawing 5, the LAN data communication part 51 with a network connection function and the data processing/control part 53 which performs processing for carrying out the high-speed mass controlling function of a graphics file and control, in the usual picture file server device provided with the input-and-output picture temporary storage part 54 which stores temporarily an input-and-output graphics file and the data accumulation part 55 which stores the data of a graphics file, it has creation of a message and the composition which formed the message processing part 52 of the invention characterized by processing between data processing / control part 53 and the LAN data communication part 51. In the picture file server device, the inputted document manuscript is processed and the image data of form just before outputting to a printer is kept. Although several kinds of printers are connected and the resolution of the optimal image format that each printer receives and picture images differs for every kind of printer on a network, it is trying to have the document image data of the output format for those

kinds of printers to all the document data registered in the system of this example.

[0047] When the image data in front of printer transmission which is going to carry out the print output exists in the picture file server device, it becomes possible by transmitting to the printer of the purpose immediately for the optimal generating picture to come to hand to the inside of a short time. It transmits, after the mentioned below intermediate format picture comes to hand and an edit server performs a conversion process in the target form for printers, when the image data of the form for output printers does not exist in a picture file server device. Although a plurality of picture file servers can exist on a network, a part of all data that each picture file server has may all differ from the case where it is the same, with the case where it is the same. Even if it is which case, it is managed by the database server what kind of document image data is managed by each picture file server. Even if it is which case of these, with a user's directions, this invention specifies a server and since it can search, it does not explained it in details in particular next.

[0048] 2.4 Database server device (drawing 6).
As a database server device includes a personal computer or a workstation and it is shown on drawing 6, the LAN data communication part 61 with a network connection function and the data processing/control part 63 which performs processing for carrying out the high-

speed mass controlling function of a graphics file and control, in the usual database server device provided with the input-and-output picture temporary storage part 64 which stores temporarily an input-and-output graphics file and the data accumulation part 65 which stores data, it has creation of the message of this invention by which it is characterized between data processing / control part 63 and the LAN data communication part 61 and the composition which formed the message processing part 62 which performs processing. Although a plurality of database servers can exist on a network, when the information which each database server has is the same, when the same, it may all be different in part. About how to use the database server in these cases properly, all are left to a user.

[0049] 2.5 Print server device (drawing 7).

The LAN data communication part 71 in which a print server device has a network connection function, data processing / control part 73 and the input-and-output picture temporary storage part 74 which perform processing which has the message processing part 72 provided with the message processing function by this invention and includes a printing tube function and control, it consists of a personal computer provided with the printer terminal area 75 for connecting with a printer black and white or in color or a workstation. Or also it is good as an equipment configuration which added the message processing function by this

invention to the printer with a network connection function. That is, a print server device provides a message processing function other than a network print function.

[0050] 2. 6. Job ticket server device (drawing 8).
A personal computer or a workstation is used and a job ticket server device refers to the data of the database server device on a network, it has data processing / control part 83 for achieving the function to process a job ticket, the LAN data communication part 81 with a network connection function and the message processing part 82 with the message processing function by this invention.

[0051] 2.7. Message processing part (drawing 9, drawing 10). The message processing parts contained in each device explained above differ by whether it has the same internal configuration and the device has a job ticket processing capability like a job ticket server or it does not have. In having a job ticket processing capability, it can operate as a job ticket server device and the database reference part for searching from a database the actual value of the parameter described to the job ticket processing part and the job ticket is needed.

[0052] The message processing part 92 which does not have a job ticket server function shown on drawing 9 is provided with the message reception part 921 which performs reception of the message sent from other

stations via the LAN data communication part 91, the message interpretation execution part 923 which interpret the contents of processing of the message which received and make the processing capability of a device operate via data processing / control part 93, process it into a message or a new message is created and processes determining the transmission destination of a message, the message transmission part 922 which carries out transmitting processing of a message, the local database part 924 holding the data of the network address for determining a transmission destination.
[0053] Drawing 10 is what shows the composition of the message processing part which has a job ticket server function, it has the communication data input output part 1021, the message reception part 1022, the message transmission part 1023, the message interpretation execution part 1024, the database reference part 1025 and the job ticket processing part 1026. The message reception part 1022, the message transmission part 1023 and the message interpretation execution part 1024 are the same as the element to which drawing 9 corresponds. The job ticket processing means 1026 has a function which creates the message for performing the job newly for every job described in the job ticket. Database reference part 1025.

[0054] 3. Structure of document data.

[0055] 3.1 Basic structure drawing 14 of document data is a drawing showing typically the structure of the document data processed by this example.

[0056] (a) Dealing with all data structure document data with the structure of the three hierarchies a «book», a «document» and a «page».

[0057] (b) The «book» is constituted as a set of one or more «documents».

[0058] (c) The «document» is constituted as a set of one or more «pages». It takes into consideration in consideration of management of a book and a «document» can be belonged to a plurality of «books».

[0059] (d) The «page» includes image information data for one side print output. In consideration of the output to a printer, each «page» of all in the same «document» has a paper size of the same manuscript.

[0060] (e) In a picture file server, accumulation management of the image information data image information data is carried out per «document». Each function of the input of a document about image information data, accumulation, edit, form conversion and a print output is available per a «book» or «document».

[0061] 3-2 Managing structure drawing 15 of a database is a drawing showing the managing structure on the relational database of the database data processed by this example and the relation of a table and a column.

As shown on drawing 15, as a table about the data of a database, there are a book table, a book constitution table, a document table, an image table, an user table, a classification table, etc. and there are a station table and a connection device table as a table about device data. In the drawing, the dashed line between the columns of the homonym of a different table shows reference relation.

[0062] Signs that the whereabouts of the picture file server which is storing the «document» data which constitutes a «book» from data of a relational database and the directory information of the purpose document configuration file in a picture file server are searched with drawing 16 are shown.

[0063] 3.3 The structural drawing 17 of a picture file server shows the data structure in a picture file server. In the system of an example, the document image data for three kinds of printers dealt with on a network is preliminary changed into the printer output file form which can be immediately outputted with each printer and preservation accumulation has been carried out. As a document image format for printer outputs, Postscript (PS) and PCPR, in the case of the document image data expressed by the Page Description Language like ESCIP, PCL, ART and LIPS, in order to express a plurality of pages by one file, it includes one file per document. In the case of the form which compressed one page image of document image data at a time like

JPEG, JBIG, ITU-TG3 and LZ, since the amount of 1 page becomes one file, in a subdirectory, it manages per «document». For example, in the constructional example of drawing 17, the directories JPEG, PS and PCPR for every document image format for printer outputs and the directory MID of the intermediate format are established in the basis of the root directory. In the case of directory JPEG, the document 1, the document 2, the document 3… and the subdirectory are provided further and the file of a page unit belongs to it, respectively. In the case of directory PS, each document becomes one file on all the pages and the document 1, the document 2… are stored as a file.

[0064] 3.4 As the preceding clause explained into middle format file picture file server, storage accumulation of the document image data file of intermediate format form is carried out to the MID directory other than the data of printer output file form. The graphics file of this intermediate format form is faithful to the state at the time of an image input as much as possible and since it is kept in the form of not degrading a picture, as shown on drawing 18, it has structure which includes the graphics format according to the kind of inputting agency medium as an internal file. The format of the name hung up over the sequence of the input file format 183 of drawing 18 here is explained. LZ is a compression method based on the Lempel-Zip coding compression method which the

specialist Ziv in an information theory and the specialist Lempel in computer science cooperated and was completed and which compresses based on a learning dictionary. PhotoCD digitizes the film photo which Kodak processes, dedicates it into CD (compact disk) and it is made visible PhotoCD for a personal computer or playback equipment for exclusive use. G3 is a correspondence procedure of the fax transmitted and received using the same analog network as a general telephone line according to advice of ITU-T and means here the compression method based on MMR (Huffman encoding) which is the standard. PostScript is a Page Description Language which US Adobe defined and which describes a document by vectorial representation. [0065] The structure of a middle format file is shown for the case where input file formats are JPEG and PostScript in drawing 19 (a)m (b) at an example. Drawing 19 (a) shows the structure of a middle format file in case input preservation format is JPEG, it consists of the header 191 and the storage 192 of a plurality of internal files and has the information 191a about the form of an internal file, each internal files 192a, 192b… and the information 191b, 191c… about a starting position and a size in the header unit 191. Drawing 19 (b) shows the structure of a middle format file in case input preservation format is PostScrip and serves as the header 193 from the one internal file 194.

The header 193 includes the information 193b about the information 193a about the form of an internal file, the starting position of the PostScript internal file 194 and a size.

[0066] The utilization object of a middle format file is the following three points. (a) When it transmits to other print server devices and a station in the form of other than the registered printer output file form and the document image data currently kept by the picture file server is outputted.

[0067] (b) After performing image editing processings, such as expansion, reduction, rotation, convert colors of a picture and page numbering, when outputting at the time of a printer output.

[0068] (c) Since there was no space for creating and keeping the document image data of printer output file form at the beginning since the availability of the disk in a picture file server device was insufficient, but the availability of the disk for storage was made, when keeping it.

[0069] 3.5 In the edit server device provided with the edit function for exclusive use, editing processing of (c) is performed from the above (a) using the supplementary explanation the mentioned above middle format file about an edit server. In an edit server device, a high speed and in order to carry out efficiently, it has various image editing and a conversion function for described image editing processing.

Since the input data which an edit server processes is a middle format file in many cases, the device with an edit server function may be the picture file server device and combination which keep a middle format file. The device which has an edit server function also by the system of this example keeps a middle format file. Thus, since it loses the processing which performs network-data transmission for edit of a middle format file in carrying out accumulation storage of the middle format file at an edit server, the performance of the whole system improves.

[0070] 4. Composition of message.

[0071] 4.1 The standard message shown on entire configuration drawing 20 of a standard message includes the following four portions. Next, the device linked to each network which performs transmission of a message and reception is called a station.

[0072] (a) The control information part 201 control information part 201 consists of the one omissible control information file 2011. The control information file 2011 is a text file described in displayable character code, the information about the entire configuration of a message, the station name which generated the message, the station name of the transmission destination of a message, functional conditions required for the transmission destination of a message, a user's name, a password, the current value of the variable of a behavioral description program and the row number

performed next is included. The example of a control information file is shown on drawing 29 mentioned later.

[0073] (b) The behavioral description part 202, behavioral-description part 202 consists of the one omissible behavioral description file 2021. The behavioral description file 2021 is a text file described in displayable character code and the behavioral description program which described operation at the station of a message is contained. The example of a behavioral description file is shown on drawing 33 - drawing 38mentioned below.

[0074] (c) The history control department 203 history control department 203 consists of the one omissible history control file 2031. The history control file 2031 is a text file described in displayable character code and the operation history in each station of a message is contained. The example of a history control file is shown on drawing 30 mentioned below.

[0075] (d) The conveyance content block 204 conveyance content block 204 can be omitted and consist of the conveyance content files 2041-2043 which can be held. A plurality of conveyance content files, a message holds the contents under present conveyance. Although this example defines and explains the following 3 kinds as the conveyance content block 204, it is possible to hold as a conveyance content block also about all files other than these.

[0076] (d-1) Job ticket file (drawing 39, drawing 40). What expressed simply the contents which the job ticket file 204a is a text file described in displayable character code and carry out execution instruction to a message with a parameter form called a job ticket. An ambiguous expression which does not become clear unless it searches a database is allowed. In this example, compared with creating a behavioral description program, there are a point which a user can describe briefly and an advantage that the mentioned below message component can be simplified. Although a job ticket file is a maximum of one, a plurality of «jobs» can be described in one file at a conveyance content block. «Each job» in a job ticket can be distinguished with a JobName parameter (the 6th line of an example and drawing 39 and the 16th line, the 10th line of drawing 40 and the 20th line).

[0077] (d-2) Result information file 204b (drawing 31). What expressed simply the result performed with directions of the message by the parameter form «result information» by the text file described in displayable character code. There is an advantage that the mentioned below message component can be simplified. Although the number of result information files is a maximum of one, a plurality of «result information» can be described in one file at a conveyance content block.

A result in the inside of each information file «a result information», a ResultName parameter (the 5th line of drawing 31), it can be distinguished. To an originator, it is used in order to report the result of message processing and an error condition and the processing result based on job ticket directions.

[0078] (d-3) Document file 204c (drawing 41).

The document file 204c consists of a book which constitutes a plurality of the mentioned above document image data or a document. It is also possible for a plurality of books and a document to be intermingled in this example and to have a file by a conveyance content block.

[0079] 4.2 The composition of the default message of the embodiment of the invention defines each component of an omissible message, as shown on drawing 21.

[0080] (a) As shown on usual message transfer drawing 21, in the case of the usual message transfer, the control information part 211, the behavioral description part 212 and the history control department 213 are required. When there are no conveyance contents which a message should carry with a natural thing, the conveyance content block 214 can be omitted.

[0081] (b) In the case of the message transfer of the first-time message transfer first time, it is the control information part 211 and the behavioral description part 212 is required.

Since the history information of the message does not have an important meaning when transmitted out of a station for the first time after the message is generated at a station, it is omissible whether the history control department 213 is made into an empty file. When there are no conveyance contents, the conveyance content block 214 can be omitted.

[0082] (c) In transmission of a job ticket, the operation expected is defined without exception as follows by the example of a message transfer book of the job ticket. That is, «all the job tickets that a message is carrying being processed and it returning with a processing result in a job ticket server». In this case, as shown on drawing 21, the control information part 211, the behavioral description part 212 and the history control department 213 are omissible. User Information originally acquired with reference to a control information part is described in the job ticket. Except User Information, the standard value which the job ticket server defines is used. The standard job ticket processing program with which the behavioral description program is registered into the job ticket server is used. When there are the contents of conveyance which a job ticket processes, it can hold as a next conveyance content file of a job ticket. When an omissible control information part, behavioral description part and history control department exist, description of the file of each formation part is

processed more preferentially than a job ticket.
(Drawing 28)

[0083] (d) The operation expected in transmission of result information is defined without exception as follows by the example of a message transfer book of result information. That is, «the processing result of a message being reported to the originator of a message». In this case, a control information part, a behavioral description part and a history control department are omissible. User Information originally acquired with reference to a control information part is described in the result information file. Only the report processing of behavioral description in particular is unnecessary. When there are the contents of conveyance brought home as a processing result, it can hold as a next conveyance content file of a result information file. In the case where the appointed operation is all normally completed as directed preliminary the time of normal termination result, in the case where unnecessary specification is directed in the behavioral description part or the job ticket, a result information file is omitted. When the contents of conveyance brought home as a processing result do not exist as this special situation, either, a message does not come to an originator on the contrary. When an omissible control information part, behavioral description part and history control department exist, description of the file of each

formation part is processed more preferentially than a result information file.

[0084] 4.3 According to the distinction book embodiment of a transfer method and a message formation part, dealing with the following 4 kinds as a transfer method of a message. When transmitting a message, the method of distinguishing the formation part of each message in a receiver is used. For example, in order to distinguish each file which constitutes a message in transmission, there is the method of describing it what the file is to be a file name and a transfer sequence in the file to transmit. Since the file name and the order of a file which constitute a message can be described in a control information file, it can also use for distinction. Drawing 23 (a) - (d) is an example of the discriminating method by the name and turn of a file. The file name of a control information file gives C to a head, as shown on drawing 23 (a) or it attaches CTL as an extension. As shown on drawing 23 (b), D is given to the head of a file name or DRV is given to a behavioral description file as an extension. As shown on drawing 23 (c), L is given to the head of a file name or LOG is given to a history control file as an extension. As shown on drawing 23 (d), L is given to the head of a file name or LOG is given to a conveyance content file as an extension.

[0085] Drawing 24 (a) - (c) and drawing 25 (a) - (c) is an example of the method of describing what the file is in the file to transmit. The 1st is a message identification header part each, it uses from the '#' sign of the 1st character to a line feed code as a discernment header part and it is shown before the following message configuration file what the contents of the file are. Thus, when the file to transmit is a text file, even if it may be merged into one file while a plurality of files transmitting, for example, it can distinguish easily at each station and a necessary part can be taken out.

[0086] (a) In the example of a transmission book by an electronic mail means, as a transfer method by the electronic mail means of a message, a message is transmitted using general SMTP (Simple Mail Transfer Protocol) in a UNlX operating system or the Internet. In transmission by an SMTP E-mail transfer means, the point that only the text file usually described in displayable character code can be processed and the file sent at once have the problem that it is usually restricted to one. However, it can be used when summarizing the multi-file that constitutes a message for the boundary of each file since it is identifiable by the mentioned above discernment header when it does not have a conveyance content block of the message to transmit or when a conveyance content block is a text file and transmitting at once.

[0087] By using a method which is called MIME (Multipurpose Internet Mail Extension) and which deals with a binary file with an E-mail, it is possible to include the file which is except a displayable character code like document image data and is constituted in the conveyance content block of a message and to transmit it. The example of the method of carrying out the specification method of the station device name of the message transmission point and the user name is shown on drawing 26 (a).

[0088] (b) In the example of a transmission book by a network file transfer means. As a transfer method by the network file transfer means of a message, a message is transmitted using general FTP (File Transfer Protocol) in a UNlX operating system or the Internet. In transmission by a FTP network file transfer means, more than one are intermingled and the text file and binary file that were described in displayable character code can be processed and since it is possible to specify and transmit the turn and the file name to transmit, as a transfer means of a message, it is satisfactory. The example of the method of carrying out the specification method of the station device name of the message transmission point and the user name is shown on drawing 26 (b).

[0089] (c) Transmitting a message as a transfer method by the network printing means of a message in the example of a transmission book by a network printing

means using general LPR (Line Printer Spooler) in a UNIX operating system. In transmission by an LPR network printing means, more than one are intermingled and the text file and binary file which were described in displayable character code can be processed and since it is possible to specify and transmit the turn and the file name to transmit, as a transfer means of a message, it is satisfactory. The example of the method of carrying out the specification method of the station device name of the message transmission point and the virtual printer name is shown on drawing 26 (c).

[0090] (d) In the example of a transmission book by the Internet file transfer means. As a transfer method by the network file transfer means of a message, a message is transmitted using HTTP (Hyper Text Transfer Protocol) which is the Internet file transfer means. In transmission by a HTTP Internet transfer means, more than one are intermingled and the text file and binary file that were described in displayable character code can be processed and since it is possible to specify and transmit the turn and the file name to transmit, as a transfer means of a message, it is satisfactory. The example of the method of carrying out the specification method of the station device name of the message transmission point and the directory name is shown on drawing 26 (d).

[0091] 4.4 The example of the search results of the network information about each station explained by the embodiment after search of a network database is shown on drawing 32. When a message tends to be transmitted or it is going to receive the service on a network, otherwise, a communication procedure and information like a network address are needed for the purpose device and the name of the purpose server. Although the information about a network database is managed on a database server or the local database of each device in this example, a means to manage such information DNS (Domain Name Service) of a UNIX operating system, it may manage using the NDS (Network Directory Service) name service of NIS (Network Information Service) and a NetWare operating system.

[0092] 5. Example of retrieval processing of document image (example 1).

Next, it points from the client device 101 using the message communication function by this invention, a maximum of ten documents including the character «specifications» currently kept by a network domain «ksp.fx.co.jp» and «nki.fx.co.jp» are searched, the example (example 1) of the retrieval processing of the document image which acquires the graphics file of the PS (PostScript) format is explained.

[0093] 5.1 Client device.

[0094] In the client device 101 provided with the composition shown on 5.1-1 drawing 3, a message is assembled in the data-processing control part 43 based on a user's directions inputted by the information input part 35. Although a message includes a control information file, a behavioral description file, a history control file and a conveyance content file, since there is no history information, as for a history information file, contents serve as an empty file. In the case of the example of search of this document image, a conveyance content file is not. A user creates a behavioral description program in a behavioral description file using a text editing program etc. Also, it is good as a behavioral description file to prepare the behavioral description program used frequently preliminary and change only a necessary part. Drawing 33 shows the example of a behavioral description file. A user name and a password are read from a user's operating environment to a control information file and are set to it and 1 is set to it as the number of program execution lines. Using a text editing program etc., a user may create a control information file, prepares the standard control information file and may copy and use this processing if needed.

[0095] 5.1-2 Sending the message which includes a control information file created as mentioned above, a behavioral description file and an empty history information file to the message interpretation execution

part 1024 of the message processing part 112 and make message processing start.

[0096] 5.1-3 Attesting by asking the database reference part 1025 with reference to the user name and password of a control information file in the message interpretation execution part 112. When the database reference part 1025 can connect with the database server 131 on a network, authenticating processing is performed with reference to User Information of the database server 131 on a network. When it cannot be connected with the database server 131 on a network, authenticating processing is performed with reference to User Information (local database) which it has in the database reference part 1025. In the case of this embodiment, since the information on a user's operating environment is already registered into the local database, it is attested correctly.

[0097] 5.1-4 Perform interpretation executive operation of a message behavioral description file from the number of program execution lines (in this case, the 1st line) described by the message control information file. In the following explanation, a message behavioral description file explains in the example which is a thing with the contents shown on drawing 41. Since the null line and a comment line are disregarded in interpretation executive operation, the first command is the 3rd line. It is the declaration and initialization of a variable which the 5th line uses within a program from

the 3rd line. It is declaration processing of the subroutine searchImage in which the 25th line performs this retrieval processing from the 7th line. The 27th line is declaration of the variable which processes a result. The subroutine searchImage returns the searched result with a mold called csvSheet. CSV (Comma Separated Value) means the form of a text file which was divided with the comma and which can have a line of a plurality of lines which consists of a plurality of items. Operation of a program is performed from the 28th line. The processing from the 28th line to the 30th line is performing the subroutine searchImage given a definition until it sets 0 to the counter variable i and reaches the number (2 pieces) of domains string array. As a parameter, the subroutine searchImage sets domain character string «ksp.fx.co.jp» and «nki.fx.co.jp» respectively and performs them twice. Since the value of the counter variable i is 0, the 29th line performs call processing of the 1st subroutine searchImage using 0th element «ksp.fx.co.jp» of a domains character string list as a parameter. It is the 9th line at the beginning of subroutine processing and domain character string «ksp.fx.co.jp» received as a parameter is set as a network domain. The 10th line and processing of the 11th line refer to a network database, it is the station which had the nearest database client function from the present station (client device 101) and is working now and investigating one station which has a margin in

throughput and substituting for the station variable s in a program. This station variable describes the attribute of each station linked to a network. Here, the data client device with which the information about image data can be retrieved is searched. At the message interpretation execution part 1024, it asks the database reference part 1025, a device with this nearest function on a network is investigated and a result is substituted for the station variable s. The reference result in the case of this example and its station are the job ticket server device 111 (station name «mari.ksp.fx.co.jp»). The case where the database reference part 1025 of the client device 101 does not have a reference function of a network database, when reference of a network database is impossible and there is no reference result relevance station, the information on a database client preliminary registered into the local database of database reference circles is used.

[0098] 5.1-5 The processing next to the program executed by the message interpretation execution part 1024 is transmitting the whole message including the program under execution to the station variable s (substance is the job ticket server device 111) searched for the preceding clause (the 12th line). The message interpretation execution part's 1024 processing of this line (the 12th line) will store in a control information file the value of all the variables in the present program and the line which should perform the next.

Next, the station name of a transmitting agency and the station name of a transmission destination are described with the date and time to a history control file (refer to the 5th line from the 3rd line of the example of a history control file of drawing 30). Each file which constitutes a message is sent to a message transmission part in order after that. And a message is transmitted to the target job ticket server device 111. Although there are some transmission methods of a message, since there is no description in a control information file, the job ticket server device 111 called for with reference to a database reference part transmits among the program of a behavioral description file here by the electronic mail means which usually receives a message.

[0099] 5.2 Message processing device.

[0100] 5.2-1 In the mentioned above 1.1-5 paragraph, with the job ticket server device 111 specified as the message transmission point. The message sent from the client device 101 is received in the message reception part 1122 in the message processing part 92 (this message processing part 92 has the concrete composition shown on the message processing part 112 of drawing 10).

[0101] 5.2-2 The message which arrived is sent to the turn which arrived at the message interpretation execution part 1024 of the message processing part 92 (112) and starts message processing.

Even if it is a case where a plurality of messages are received simultaneously, it waits to finish receiving all the files that constitute each whole message and is sent to a message processing part in order for every message. When the message interpretation execution part 1024 is carrying out interpretation execution of many messages more than the number decided preliminary simultaneously, the message which arrived is saved in the message reception part 1122 until interpretation execution of a message becomes below the number decided preliminary.

[0102] 5.2-3 Leaving the record which received the message correctly with the date, time, the receiving station name and the transmission source station name first to a history control file in the message interpretation execution part 1024 (from the 7th line to drawing 30 and the 9th line). And the required function item of the transmission destination equipment described by the message control information file is referred to, verification processing of whether the required function item of the demand is fulfilled, the message processing device 111, namely, the job ticket server device that received the message or it is possible to perform processing of control information file description is performed.

[0103] 5.2-4 When it becomes an error in the verification processing of the preceding clause, in the database reference part 1025, it is working now and the

next candidate of the device which has a margin in throughput, namely, a station with a job ticket server function, is searched with a device with the database client function near the client device 101 which are applicable requirements. It is an error when the searched station does not exist. If an error does not occur, the station name, transmission and the station name of a transmission destination are recorded for a search results station on a history control file with both the date and time as a transmission destination of a new message and a message is transmitted to a transmission destination station.

[0104] 5.2-5 When the requirements for the preceding clause are satisfied, attesting by asking a database reference part in the message interpretation execution part 1024 with reference to the user name and password which are described by the message control information file. When the database reference part 1025 can connect with the database server on a network, authenticating processing is performed with reference to the data of the database server on a network. When it cannot be connected with the database server on a network, authenticating processing is performed with reference to user 1 information (local database) which it has in database reference circles.

[0105] 5.2-6 When it becomes an error in the authenticating processing of the preceding clause and re-retrieval processing of 1.2-4 paragraph, the message

of an error reports. That is, an error condition is created as a result status file and it is considered as the conveyance content block which constitutes a message. Next, the station name, transmission and the station name of a transmission destination are described to be both the date and time to a history control file. And the message which became an error to the client device 101 which is the transmitting origin of a message from the first is transmitted.

[0106] 5.2-7. When satisfactory in authenticating processing, it leaves both the date and time and the record in which attestation succeeded to a history control file (the 11th line of the history control file of drawing 30), interpretation executive operation of a message behavioral description file (drawing 33) is performed from the number of program execution lines of a message control information file (in this case, the 13th line of the message behavioral description file of drawing 33).

[0107] 5.3 Processing of database.

[0108] 5.3-1 In the 13th line of a message behavioral description file (drawing 33) and the 14th line are accessible from the job ticket server device 111 which is the present execution station with reference to a network database, it is in a near position, it is working now and the database server name which has a margin in throughput is investigated and it sets to the server variable of the database class database in a program. In

this case, data base name «RDB-KSP» which is working with the database server device 131 is set.

[0109] 5.3-2 The 15th line of a message behavioral description file (drawing 33) is starting connection processing with database server «RDB-KSP». Since any attributes other than connection Server Name are not set to data database, as for a connected user name or a password, the description is used for a control information file. As for other database conjunctive attributes, a standard value is used.

[0110] 5.3-3 The 16th line of a message behavioral description file (drawing 33) and the 17th line are issue of search SQL (Structured Query Language) to a database and incorporation processing of search results. Here, 2 parameters stored procedure (catalogued procedure) «bookimage.searchbyname» '1% of % specifications' and 'PS' registered preliminary are attached and called into the database server. bookimage.searchbyname, out of the data of the book which has the character string the «specifications» in a database in a title name, the whereabouts of the document image data of PS (PostScript) form is searched and all the affairs and processing to display are performed for the host name holding it and a directory name. The executed result of this search SQL is inputted into the result sheet variable r.

[0111] 5.4 Transmitting processing.

5.4-1 of search results, the 25th line is the processing which actually transmits the document image data of a result searched with the preceding clause to the client device 101 from the 18th line of a message behavioral description file (drawing 33). The 18th line is the definition of conditional repetition processing whether the number of lines of the search results in the desired server of the preceding clause is reached by setting 0 to the counter variable i and the message itself is sent into the picture file server 121 and the processing which transmits the document image data of search results to the client device 101 from there is repeated until the sum total file transfer counter variable count amounts to ten pieces. In an example, the searched result is 3 affairs and the picture file server which is keeping the first document image data is the «megu.ksp.fx.co.jp» picture file server device 121.

[0112] 5.4-2 The 19th line of a message behavioral description file (drawing 33) and the 20th line are processings that transmit the whole message including the program under execution to the picture file server which is keeping document image data. The message interpretation execution part 1024 processing of this line will be stored in a control information file the value of all the variables in the present program and the line which should perform the next.

And the station name of a transmitting agency and the station name of a transmission destination are described with the date and time to a history control file (from the 13th line to drawing 30 and the 15th line). Each file which constitutes a message is sent to the message transmission part 1123 in order after that and a message is transmitted from there to the target picture file server device 121. By performing this line shows the situation of the control information file of the message transmitted and a history control file to drawing 29 and drawing 30, respectively.

[0113] 5.4-3 In the picture file server device 121, by the same processing as the mentioned above step 5-2, receiving a message in order and perform verification processing by an operating condition and user authentication processing.

[0114] 5.4-4 The 21st line of a message behavioral description file (drawing 33), with a FTP (File Transfer Protocol) protocol, Postscript document image data transmission is specified and carried out to the client device 101 shown by the station variable dest. The result of having performed the file transfer by a file transfer protocol is stored in processing result r.text.

[0115] 5.4-5 The 22nd line of a message behavioral description file (drawing 33) is processing that adds 1 to the count variable count. The count variable count is the sum total of the search results based on the search results of a plurality of database servers and it is used in

order to manage, so that the number of files may not exceed 10.

[0116] 5.4-6 The end of the 23rd-line repetition processing of a message behavioral description file (drawing 33) is shown. That is, it returns to the 18th line, 1 is added to the counter variable i and the counter variable i reaches the number of lines of the search results in the desired server of the preceding clause, the sum total file transfer counter variable count amounts to ten pieces or condition determination processing is performed.

[0117] 5.4-7 Here, the processed number of cases is one affair and since conditions are not fulfilled yet, perform the 19th line and processing which transmits the whole message to the station of the 2nd line of search results of the 20th line. However, in this case, the next transmission destination station is the «megu.ksp and fx.co.jp» picture file server device 121 and it turns out actually that it is the same as that of the station processed now. Transmission of a message is not performed when the transmission source station and transmission destination station of such a message are the same. Neither description to a history control file, nor the verification processing by an operating condition and user authentication processing is also performed. The line of the following program is processed.

[0118] 5.4-8 the processing next to the 21st-line program of a message behavioral description file (drawing 33) the same mentioned above processing of 5.4-4, it is transmitting processing of the document image data based on a file transfer protocol. A step is repeated like the following. Since it returns to the 18th line and the counter variable i reaches three lines of the search results in the desired server of the preceding clause after performing repetition processing 3 times, repetition processing is ended.

[0119] 5.5. Retrieval processing in following database server.

[0120] 5.5-1 In the 24th line of a message behavioral description file (drawing 33), end the subroutine searchImage which performs retrieval processing from the 7th line to the 25th line and return to the row number of the 29th line of a calling agency with a processing result. The row number which should return from this subroutine is recorded on the control information file (the 23rd line of drawing 29). In the 29th line, processing which adds and adds the processing result of the subroutine searchImage is performed to the result sheet r.

[0121] 5.5-2 The end of the 30th-line repetition processing of a message behavioral description file (drawing 33) is shown. That is, it returns to the 28th line, 1 is added to the counter variable i and condition determination processing whether i reaches the two

number of a domain list is performed. At this time, since the value of i is 1, it shifts from it to the 29th line following processing.

[0122] 5.5-2 The 29th line of a message behavioral description file (drawing 33) is call processing of the search subroutine searchImage in the 2nd database server. The value of the counter variable i performs subroutine call processing using the 1st element «nki.fx.co.jp» of a domains character string list and a parameter that is 1. It is the 9th line and the domain character string «nki.fx.co.jp» received as a parameter is set as a network domain and the following processings are the same as that of the step of the preceding clause at the beginning of subroutine processing.

[0123] 5.6 End of processing.

[0124] 5.6-1 The 31st line of a message behavioral description file (drawing 33) is processing which sets up the processing result of 2 times of the subroutines searchImage as an information file as a result of message objects. The 32nd line is processing which transmits the whole message which has a processing result as a result information file to an originator (client device 101). By this processing, the value of all the variables in the present program and the line (in this case, the 33rd line) which should perform the next are stored in a control information file. Next, the station name of a transmitting agency and the station name of a

transmission destination are described with the date and time to a history control file. Each file which constitutes a message is sent to a message transmission part in order after that. And a message is transmitted to the target client device 101. Although there are some transmission methods of a message, it transmits by the SMTP network electronic mail means which is the 1st candidate of description in a control information file here.

[0125] 5.6-2 In the client device 101, receive in order the message returned in the message processing part 102 and perform reception record in the message interpretation execution part 923, verification processing and authenticating processing of User Information. And the user who created the job ticket is notified of the message processing result having returned by the information display part in a client device and message processing is completed.

[0126] 6. Example of processing of print instruction of preservation document (example 2)

Next, it points from the client device 101 using a «job ticket», the example of processing (example 2) of the embodiment in the case of using document image data (book) of the picture file server device 121 as the printer 151 and carrying out the print output of the document image data (book) of the picture file server device 122 to the printer 152 is explained.

[0127] 6.1 Client device.

[0128] 6.1-1 Assembling the job ticket file shown on drawing 39 in data processing / control part 43 in the client device 101 based on a user's directions. A user may start a text editing program by the information display part 34 and the information input part 35 in a client device and an assembly of a job ticket file may be described. A «job ticket preparing program» with a graphical user interface which performs the display shown, for example on drawing 27 may be started and it may create. A job ticket program creates a job ticket like drawing 39 automatically by specifying a document as specification of the parameter of a print output mode in the window 272 in the window 271 with the graphical user interface of drawing 27. In the example of drawing 39, output instruction of the document 11110021 and the document 11110022 is carried out by the identification code of a book called book ID (the 5th line, the 15th line).

[0129] 6.1-2 Creating a control information file required in order to transmit as a message the «job ticket» created for the preceding clause in data processing / control part 43, a behavioral description file, a history control file and a conveyance content file in the client device 101. «The program of a behavioral description file, the job ticket file of a conveyance content block is processed, a result is reported after processing finishes altogether».

Since it is contents always used and registers with the data storage part (not represented) of the client device 101 as a standard program when performing the job ticket processing, it reads from the data storage part of the client device 101 and it reproduces as it is and creates. Drawing 34 shows the contents of the behavioral description file of the job ticket of processing. A user name and a password are read from a user's operating environment to a control information file and are set to it and 1 is set to it as the number of program execution lines. A «job ticket preparing program» may perform this processing. Since there is no history information which the history control file should still leave, it is empty. The job ticket file created for the preceding clause is set to a conveyance content block.

[0130] 6.1-3 Send the message which includes the control information file, the behavioral description file, the empty history information file and job ticket file which were created for the preceding clause 6.1-3 to the message interpretation execution part 1024 of the message processing part 102 shown on drawing 10 and make message processing start.

[0131] 6.1-4 Attesting by asking the database reference part 1025 with reference to the user name and password of a control information file in the message interpretation execution part 1024.

When the database reference part 1025 can connect with the database server device 131 on a network, authenticating processing is performed with reference to User Information of the database server on a network. When it cannot be connected with the database server device 131 on a network, authenticating processing is performed with reference to User Information (local database) which it has in the database reference part 1025. In the case of this example, since the information on a user's operating environment is already registered into the local database, it is attested correctly.

[0132] 6.1-5 Next, the message interpretation execution part 1024 performs interpretation executive operation of a message behavioral description file (drawing 34) from the number of processing program execution lines (in this case, the 1st line) set as the message control information file. Since the null line and a comment line are disregarded in interpretation executive operation, the first command is the 3rd line. The processing here is the device which had a database client function near the client device 101 with reference to the network database and is working now and investigating the device which has a margin in throughput and substituting for the station variable s in a program. This station variable s describes the attribute of each station which is connected to the network. Here, the station with the job ticket server function which processes a job ticket is searched.

At the message interpretation execution part 1024, it asks the database reference part 1025, a device with this nearest function on a network is investigated and a result is substituted for the station variable s. The reference result in the case of this example and its station are the job ticket server device 111 (station name «mari.ksp.fx.co.jp»). The case where the database reference part 1025 of the client device 101 does not have a reference function of a network database, when reference of a network database is impossible and there is no reference result relevance station, the information on the mating device (job ticket server) for sending the message having contained the job ticket preliminary registered into the local database of database reference circles is used.

[0133] 6.1-6 The processing next to a program is transmitting the whole message including the program under execution to the station variable s (substance's is the job ticket server device 111) searched for for the preceding clause 6.1-5. The message interpretation executive operation part's 1024 processing of this line will store in a control information file the value of all the variables in the present program and the line which should perform the next. Next, the station name of a transmitting agency and the station name of a transmission destination are described with the date and time to a history control file.

Each file which constitutes a message is sent to the message transmission part 1023 in order after that. And a message is transmitted to the target job ticket server device 111. Although there are some transmission methods of a message, since there is no description in a control information file, the job ticket server device 111 called for with reference to the database reference part 1025 transmits among the program of a behavioral description file here by the electronic mail means which usually receives a message.

[0134] 6.2. Message processing.

[0135] 6.2-1 Receiving the message sent from the client device 101 in the message reception part in a message processing part in the mentioned above 6.1-5 paragraph with the job ticket server device 111 specified as the message transmission point.

[0136] 6.2-2 Processing which sends message which arrived to message interpretation execution part of message processing part in order, error handling in the reception record to the history control file in a message interpretation execution part, the verification processing of whether to fulfill the required function item, the authenticating processing of User Information and these processings are the same as the processings in the case of the example of search of the document image of the mentioned above 5th paragraph.

[0137] 6.2-3 When satisfactory in authenticating processing, perform interpretation executive operation of a message behavioral description file from the number of program execution lines of a message control information file (in this case, the 8th line).

[0138] 6.2-4 In this example, a program file, after the 9th-line comment of behavioral description file of drawing 34, the number of job tickets is set to the counter i at the 12th line and since it has become like «processing from the beginning of a job ticket to the last and returning a result to a message transmission person (originator, in this case client device 101)», that processing is performed. In this example, drawing 39 «job ticket» processes with the 6th to 14th line in those with two from the 16th line to the 29th line and order. The 2nd to 4th line is a declaration parameter about all jobs in the same file. The 5th line and the 15th line are comment lines.

[0139] 6.2-5 Sending the job ticket file which constitutes the conveyance content block in a message to a job ticket processing part in the message interpretation execution part 1024.

[0140] 6.3. Processing of job ticket.

[0141] 6.3-1 Creating the message for performing the job newly for every job of description in a job ticket in the job ticket processing part 1026. Out of the form of the behavioral description program currently prepared preliminary, the form of a behavioral description

program according to the main command of the parameter of job ticket description is chosen and it is considered as the prototype of the program for the behavioral description part of the message created newly. In the case of this example, the behavioral description program the object for a document image data print and for the edit print of document image data is chosen from the command parameter of the description to every job among a job ticket file. The behavioral description file of the job of the beginning of this example is shown on drawing 35.

[0142] 6.3-2 In the job ticket processing part 1026, the information about the print server device which the kind of output printer and the output printer have connected from the output printer name of the parameter of job ticket description via the database reference part 1025 comes to hand. The information about an output book and the document which constitutes it comes to hand from output book ID.

[0143] 6.3-3 In the database reference part 1025, connect with the database server on a network and the information which had the request from the job ticket processing part 1026 comes to hand. Of which database data is referred to even if it is a case where a plurality of database server devices exist. Specification description (in the case of this example, the database server «RDB-KSP» is working and it is the database server device

131) of the database server of the description to a job ticket is followed.

[0144] 6.3-4 After creation of a behavioral description program is completed by the job ticket processing part 1026, read a user name and a password from a user's operating environment to a control information file, set them to it and set 1 to it as the number of program execution lines. Since there is no history information which the history control file should still leave, it is empty. A conveyance content block does not have a case of this example.

[0145] 6.3-5 Sending the message which includes a control information file created for the preceding clause 6.3-4, a behavioral description file and an empty history information file to the message interpretation execution part 1024 of the message processing part 112 and start message processing. When the message interpretation execution part 1024 is carrying out interpretation execution of many messages more than the number decided preliminary simultaneously as the mentioned above, the created message is saved in a job ticket processing part until interpretation execution of a message becomes below the number decided preliminary.

[0146] 6.3-6 Attesting by asking a database reference part with reference to the user name and password of a control information file in the message interpretation execution part 1024.

Since the information on a user's operating environment is already registered into the local database, this place stand is attested correctly.

[0147] 6.3-7 Perform interpretation executive operation of a message behavioral description file in the message interpretation execution part 1024 from the number of program execution lines (in this case, the 1st line) set as the control information file of the new message created from the job ticket this time. The first command is the 3rd line. Here, it is investigating the station which is serving the name of a picture file server «IDB-KSP» with reference to a network database and substituting for the station variable s in a program. At the message interpretation execution part 1024, it asks the database reference part 1025 and a result is substituted for the station variable s. The reference result in the case of this example and an applicable station are the picture file server devices 121 (station name «megu.ksp.fx.co.jp»).

[0148] 6.3-8 The processing next to a program is transmitting the whole message including the program under execution to the station variable s (substance is the picture file server device 121) searched for the preceding clause. All the variable values and execution lines in a program which are performed after the message interpretation executive operation part 1024 processes this line, storage processing of the date, time, the station name of a transmitting agency and the station name of a transmission destination and

transmitting processing to the file server device 121 of a message are performed like other the mentioned above message transmission processings.

[0149] 6.4 File server device.

[0150] 6.4-1 Receiving the sent message in the message reception part in a message processing part in the mentioned above paragraph of 6.1-5 with the picture file server device 121 specified as the message transmission point.

[0151] 6.4-2 The message which arrived is sent to the turn which arrived at the message interpretation execution part 1024 of the message processing part 112 and starts message processing. When a plurality of messages received simultaneously, the message interpretation execution part 1024, the processing in the case of carrying out interpretation execution of many messages more than the number decided preliminary simultaneously, the user name of required function item check processing of the transmission destination equipment of a control information file and a control information file, authenticating processing with a password and the processing at the time of those errors are the same as the processing at the time of the mentioned above message reception. Since the transmission source device (originator) of the beginning of a message currently processed here is the job ticket server device 111, it sends the message which has a status file in a conveyance content block as a result of

becoming an error to the job ticket server device 111 at the time of an error.

[0152] 6.4-3 When errorless in each processing of the preceding clause, performing interpretation executive operation of a message behavioral description file (drawing 35) from the number of program execution lines of a message control information file (this example case the 10th line).

[0153] 6.4-4 The 11th line of a message behavioral description file (drawing 35) has set the option for indicating the print color after edit called gray by monochrome gray as the color variable of the class for edit e. from the following line, , it is the processing which carries out annexation edit of 3 PostScript files «/IDB/PS/11120001», «/IDB/PS/11110100», «/IDB/PS/11110001» changing the colored presentation expression into monochrome gray display expression and creates the temporary PostScript file «/tmp / $$-1.ps».. A success of editing processing and failure is the mentioned above processing result storing a result in the sheet variable r.

[0154] 6.4-5 The 18th to 26th line of a message behavioral description file (drawing 35) has described the option at the time of the print output specified as each variable of o print option class with the job ticket.

[0155] 6.4-6 The 27th line of a message behavioral description file (drawing 35) is the output instruction to the printer of the file «tmp/$$-1.ps» which carried out

edit creation for the preceding clause and incorporation of an output. An output is entered additionally in the result variable r.

[0156] 6.4-7 The 28th line of a message behavioral description file (drawing 35) is the deletion of the file «tmp/$$-1.ps» which carried out the print output. A processing result is entered additionally in the result sheet variable r.

[0157] 6.4-8 The 29th line of a message behavioral description file (drawing 35) is processing which sets up the processing result which carried out the print output as an information file as a result of message objects. The 30th line is processing which transmits the control information file which has a processing result as a result information file, a behavioral description file, a history information file and the whole message as for which a result includes an information file to an originator (job ticket server device 111). By this processing, the value of all the variables in the present program and the line (in this case although there is nothing in the 33rd line) which should perform the next are stored in a control information file. Next, the station name of a transmitting agency and the station name of a transmission destination are described with the date and time to a history control file. Each file which constitutes a message is sent to a message transmission part in order after that. And a message is transmitted to the target client device 101.

Although there are some transmission methods of a message, it transmits by the SMTP network electronic mail means which is the 1st candidate of description in a control information file here.

[0158] 6.5 Processing of the 2nd job.

[0159] 6.5-1 Process like processing of after the mentioned above 2nd job, namely, after the 2nd job ticket is also sent to the job ticket processing part 1026, out of the form of the behavioral description program currently prepared preliminary, the program according to the main command of the parameter of job ticket description is chosen, the information which searches and obtains a database is added, a behavioral description program is created and a new message is constituted. This behavioral description program is shown on drawing 36. Processing of this 2nd job can be performed simultaneously with processing of the 1st job. In a job ticket server device, in job ticket interpretation executive operation, the dependency of the document image data of description is investigated in a job ticket, it performs simultaneously and when it judges with it being satisfactory, it performs simultaneously automatically. Drawing 28 is an operation outline drawing of a job ticket which performs 2 jobs simultaneously. As follows, the document data which constitutes a book is searched with a database and the dependency of document image data judges it.

- Only in the case of the output process of a document, a job can always perform simultaneously.
- If there is processing which outputs the book which performs the input process or the document image data including a document into the same job ticket when a job includes the input process of a document, the output process will not be performed simultaneously but will perform processing after the registration completion of a document.

[0160] 6.5-2 According to description of the 2nd job ticket, the edit server which processes the message created from the 2nd job is to say that anything is good (EditServer is ANY), (the 19th line of drawing 39). Thus, the 2nd message created from description of a job ticket is sent and processed by the nearest edit server device 161 from the job ticket server device 111, as a result of searching a network database from a database reference part. The 4th line of drawing 36 and the 5th line are transmitting processings to the edit server device 161, the retrieval processing of an edit server device and the 10th line. Transmitting processing of the message is carried out to the edit server device 161.

[0161] 6.5-3 The 14th line is specification of the edit option of the 1st document that constitutes the book to output from the 12th line of a behavioral description file (drawing 36). This is editing indication in which the original manuscript image size «A4» carries out 2 rise processing (it is made to rotate 2-page 90 degrees and

the page for surface ratio 2 minutes reduced one time is inserted into 1 page) as it is. While the 17th line carries out a middle format file to editing processing from the 15th line, they are the directions which create the document image data of the JPEG format for print outputs. According to the mentioned above, the middle format file used by editing processing in this example, it is kept by the edit server device 161 and also when creating a behavioral description program from a job ticket, with reference to the network database, the whereabouts to the edit server device 161 of the middle format file is checked. When a middle format file does not exist in an edit server device, processing which receives transmission of the middle format file used for edit from a picture file server is performed. An edit result is put in by the result sheet r.

[0162] 6.5-4 The 19th line is specification of the edit option of the 1st document that constitutes the book to output from the 18th line of a behavioral description file (drawing 36). This is editing indication which carries out 2 rise processing, carrying out the reducing process of the original manuscript image size «B4». While the 21st line carries out an intermediary file to editing processing from the 20th line, they are the directions which create the document image data of the JPEG format for print outputs. An edit result is added to the result sheet r.

[0163] 6.5-5 The 28th line is setting out of a print output option from the 23rd line of a behavioral description file (drawing 36). Based on description of a job ticket, to the «APEX-KSP» printer 151, a gather is carried out at the time of 2 copies and an output and the directions outputted to the paper of A4 are carried out. The print output command with the 29th actual line. The 30th line is the deletion of the file created to operating. A result adds all to the result sheet r.

[0164] 6.5-6 The 31st line of a behavioral description file (drawing 36) is a storing process to an information file as a result of the conveyance content block of an operation result. The 32nd line is processing which replies a control information file, a behavioral description file, a history information file and the message as for which a result includes an information file to the job ticket server device 111 which is an originator.

[0165] 6.6 Return of job ticket processing result.

[0166] 6.6-1 The message which was processing the job ticket performs all processings of the carried job ticket (from the 12th line to the 14th line of drawing 34) making delete the job ticket of a conveyance content block (the mentioned above 15th line).

[0167] 6.6-2 And processing of two jobs of description is completed to a job ticket and perform a standby process until both of information files come to hand, as a result of corresponding to each job.

Whenever the message based on the job of the job ticket is completed, as a result of receiving a report, an information file is an information file as a result of an own conveyance content block.

[0168] The message which files of control information file and behavioral description and is constituted from a history information file by the 20th line processing of the behavioral description file of 6.6-3 drawing 34 is transmitted to the client device 101 which is an originator.

[0169] 6.6-4 In the client device 101, receiving in order the message returned in the message processing part and perform reception record in a message interpretation execution part, verification processing and authenticating processing of User Information. And the user who created the job ticket is notified of the message processing result having returned through the information display parts in a client device and message processing is completed.

[0170] 7. Example of storage registration of document and print instruction (example 3).

Next, using a «job ticket», it points from the client device 101 and by making document data into a document, registration storage is carried out and the example to which the print output of the document data is carried out simultaneously at the printer 151 is shown on the picture file server device 121.

[0171] 7.1 Client device

[0172] 7.1-1 Assembling a «job ticket» as shown on drawing 40 in data processing / control part 33 in the client device 101 based on a user's directions. It is the same as that of the example of processing of the print instruction of the storage document of the preceding clause 6. In this drawing 40, the «document name», «the kind of document» and «comment» of the document to register are specified (the 14th line - 17 lines). «Document ID» of the document to register is automatically added at the time of the registration processing of a document and is returned to a user with a registration result. It is also possible to specify and register «document ID» about the document to register. If the same document image data has already existed when «document ID» and «book ID» are specified, the data in the specified database server and a picture file server will be replaced by registration processing.

[0173] 7.1-2 Creating the «document data» of the object which performs storage registration and print instruction in data processing / control part 33 in the client device 101 based on a user's directions. A user usually performs creation of «document data» by starting a text editing program like a word processing program via the information display parts 34 and the information input part 35 in a client device.

[0174] 7.1-3. Sending as a message the «job ticket» and the «document data» which were created for the preceding clause to the message interpretation

execution part 1024 of the message processing part 32 (102 of drawing 10) and make message processing start. The control information part, the behavioral description part and the history control department are omitted in this case and constitute a message only from a job ticket file of a conveyance content block and a document data file.

[0175] 7.1-4 In the message interpretation execution part 1024. Since a control information file and a behavioral description file are omitted and the message includes a job ticket file and a document data file, with reference to the user name and password of a «job ticket», it attests by asking a database reference part. Except the point which picks out a user name and a password from a job ticket, it is the same as that of processing of Example 2 of the preceding clause.

[0176] 7.1-5 In the message interpretation execution part 1024. Since the message does not have a behavioral description file, receive a message with a «job ticket». «Canonical processing in case the behavioral description file is omitted in the transmission source station, network-data is referred to, the whole message is transmitted to the station which is a device with the database document client function near the client device 101, is working now and has a margin in throughput». Since it is a station where the job ticket server device 111 (station name «mari.ksp.fx.co.jp») corresponds in the case of this example, it is transmitted there.

Here, it transmits by the electronic mail means described among the job ticket.

[0177] 7.2. Message processing part.

[0178] 7.2-1 Receiving the message sent from the client device 101 in the mentioned above 7.1-5 in the message reception part 1022 in the message processing part 82 (102 of drawing 10) with the job ticket server device 111 specified as the message transmission point.

[0179] 7.2-2 Processing which sends message which arrived to message interpretation execution part 1024 of message processing part 102 in order, error handling in the reception record to the history control file in a message interpretation execution part, the verification processing of whether to fulfill the required function item, the authenticating processing of User Information and these processings are the same as the processings in the case of Example 1.

[0180] 7.2-3. When satisfactory in authenticating processing, send the «job ticket» which constitutes a message to the job ticket processing part 1026.

[0181] 7.3. Processing of job ticket.

[0182] 7.3-1 Creating the message for performing the job newly for every job of description in a job ticket in the job ticket processing part 1026. Out of the form of the behavioral description program currently prepared preliminary, the form of a behavioral description program according to the main command of the parameter of job ticket description is chosen and it is

considered as the prototype of the program for the behavioral description part of the message created newly. In the case of this example, the behavioral description program the object for document image data registration and for a document image data print is chosen from the command parameter of the description to every job among a job ticket file. Drawing 37 shows the example of the behavioral description file of the first job.

[0183] 7.3-2 In processing of the job ticket of document registration processed first. Taking out the attribute data about the document file described in the job ticket and embed at the registration SQL sentence in a behavioral description program. It is searching a network database, securing the «document ID» of the document registered newly and describing in a behavioral description program. In the job ticket processing part 1026, the parameter of job ticket description is taken out via the database reference part 1024 and acquisition of a «document ID» is requested from the database reference part 1024.

[0184] 7.3-3 In the database reference part 1024, connect with the database server on a network and the document ID «11110045» which had the request from the job ticket processing part 1026 reserves and comes to hand to a database server. Of which database data is referred to even if it is a case where a plurality of database servers exist.

Specification description (database server device 131 with which the database server «RDB-KSP» is working in the case of this example) of the database server of the description to a job ticket is followed.

[0185] 7.3-4 After creation of a behavioral description program is completed by the job ticket processing part 1026, reading a user name and a password from a user's operating environment to a control information file, set them to it and set 1 to it as the number of program execution lines. Since there is no history information which the history control file should still leave, it is empty. A conveyance content block inherits and sets the document image data sent from the client device 101 with a job ticket file.

[0186] 7.3-5 Sending the message which includes a conveyance content block of the control information file created for the preceding clause, a behavioral description file, an empty history information file and a document image data file to the message interpretation execution part 1024 of a message processing part and start message processing. In advance of the start of processing, turning control by the message interpretation execution part 1024 and user authentication processing as well as the mentioned above processing are performed.

[0187] 7.3-6 Performing interpretation executive operation of a message behavioral description file (drawing 37) in the message interpretation execution

part 1024 from the number of program execution lines (in this case, the 1st line) set as the control information file of the new message created from the job ticket this time. The first command is the 3rd line. Here with reference to a network database, out of the station where the edit server is working. It is investigating the station which is offering edit service named «EDIT-NKI.nki.fx.co.jp» and substituting for the station variable s in a program. At the message interpretation execution part 1024, it asks the database reference part 1025 and a result is substituted for the station variable s. The reference result in the case of this example and an applicable station are the edit server device 161 (station name «jun.nki.fx.co.jp»).

[0188] 7.3-7 The 7th line is declaration of the variable in a program from the 5th line of a behavioral description file (drawing 37). The processing next to a program is transmitting the whole message including the program under execution to the station variable s (substance is the edit server device 161) searched for the preceding clause. Storage processing of all the variable values in a program and execution line which are performed after an interpretation executive operation part processes this line, a date, time, the station name of a transmitting agency and the station name of a transmission destination and transmitting processing to the edit server device 161 of a message

are performed like other the mentioned above message transmission processings.

[0189] 7.4. Edit server device.

[0190] 7.4-1 Receiving the sent message in the message reception part in a message processing part in the edit server device 161 specified as the message transmission point in the mentioned above 7.3-7.

[0191] 7.4-2 The message which arrived is sent to the turn which arrived at the message interpretation execution part 1024 of the message processing part 42 (= 102 of drawing 10) and starts message processing. When a plurality of messages receive simultaneously, the message interpretation execution part 1024, the processing in the case of carrying out interpretation execution of many messages more than the number decided preliminary simultaneously, the user name of required function item check processing of the transmission destination equipment of a control information file and a control information file, authenticating processing with a password and the processing at the time of those errors are the same as the processing at the time of the mentioned above message reception. Since the transmission source device (originator) of the beginning of a message currently processed here is the job ticket server device 111, it sends the message which has a status file in a conveyance content block as a result of becoming an

error to the job ticket server device 111 at the time of an error.

7.4-3 When errorless in each processing of the preceding clause, perform interpretation executive operation of a message behavioral description file (drawing 37) from the number of program execution lines of a message control information file (in this case, the 10th line). The 11th line and the 12th line are processings kept to the directory «/IDB/MID/11110045» in the edit server device 161 which changes the document image data of the conveyance content block of a message into a middle format file and has a picture file server function. The processing result of a conversion process and storage processing is stored in the result sheet variable r. The 13th line is the deletion of the document image data of the conveyance content block of a message which carried out the completion of storage.

[0192] 7.4-4 The 15th line of a message behavioral description file (drawing 37) and the 16th line, it is investigating the station which is serving the name of the image file server «IDB-KSP» for keeping the format for printer outputs and substituting for the station variable s in a program. At the message interpretation execution part 1024, it asks the database reference part 1025 and a result is substituted for the station variable s.

The reference result in the case of this example and an applicable station are the picture file server devices 121 (station name «megu.ksp.fx.co.jp»).

[0193] 7.4-5 The 17th line of a message behavioral description file (drawing 37) and the 18th line, it changes into the format for printer outputs and JPEG which specified with the parameter the middle format file kept for the preceding clause as the edit server device 161, postscript and PCPR, it is the processing kept to the directory «/IDB/MID/11110045» in the picture file server device 121 shown by the station variable s. Here, since 3 kinds of formats are specified, the conversion process from a middle format file to each format file for printer outputs and network file transmission processing for storage of the format file for printer outputs after conversion are performed 3 times. The processing result of a conversion process and transmission processing carries out additional storing at the result sheet variable r.

[0194] 7.4-6 The 20th line of a message behavioral description file (drawing 37) and the 21st line, it is the station which had the nearest database client function from the present station (edit server device 161) with reference to the network database and it is working now and investigating one station which has a margin in throughput and substituting for the station variable s in a program. The result of this retrieval processing is the edit server device 161.

The 22nd line is processing which sets the contents of the processing result sheet r till then as the text of an information file as a result of the conveyance content block of a message. Although it is transmission processing of the message to a station with a database client function, since the present station is the same as a transmission destination station, the following 23rd line does not perform processing in this case.

[0195] 7.4-7 The 29th line is document data registration processing to a database server «RDB-KSP» from the 25th line of a message behavioral description file (drawing 37). Connection destination Server Name is set up by the 25th line, connected with a database server by the 26th line and SQL for registration is performed by the 28th line with the 29th line. In the SQL sentence, the document attribute described by the job ticket in the stored procedure (catalogued procedure) «doc.create» is made into a parameter and is called and performed. The executed result of this search SQL is inputted into the result sheet variable r.

[0196] 7.4-8 The 31st line of a message behavioral description file (drawing 37) is processing which adds the contents of the sheet variable r to the text of an information file as a result of the conveyance content block of a message as a result of the executed result of search SQL. As opposed to the job ticket server device 111 whose 32nd line is an originator, if an interpretation executive operation part processes this line that is the

processing which transmits the whole message, an information file is returned to the job ticket server device 111 as a result of the control information file which all the variables in a program are held and a history is described and constitutes a message, a behavioral description file, a history control file and a conveyance content block.

[0197] 7.5 Processing of the 2nd job ticket.

[0198] 7.5-1 Process like the mentioned above processing after the 2nd the job, namely, after the 2nd job ticket is also sent to a job ticket processing part, out of the form of the behavioral description program currently prepared preliminary, the program according to the main command of the parameter of job ticket description is chosen, the information which searches and obtains a database is added, a behavioral description program is created and a new message is constituted. This behavioral description program is shown on drawing 38. In processing of this 2nd job, it cannot perform simultaneously with processing of the 1st job. Although the dependency of the document image data of description is investigated in a job ticket in job ticket interpretation executive operation in a job ticket server, into the job ticket of drawing 40, it is document =THlS (what is carried by a message) to register and document =THlS (what is carried by a message) which carries out a print output and since it is

equal, print output processing is performed after registration processing completion of a document.

[0199] 7.5-2 According to description of a job ticket, the picture file server which processes the message by which the 2nd job was performed is «IDB-KSP» altogether among the job ticket (drawing 40, the 6th line). Thus, the 2nd message created from description of a job ticket is sent and processed by the picture file server device 121. The 4th line of the behavioral description file of drawing 38 and the 5th line are transmitting processings to the picture file server device 121, the station retrieval processing of a picture file server device and the 9th line. Transmitting processing of the message is carried out to the edit server device 121.

[0200] 7.5-3 The 14th line is specification of a print output option from the 11th line of a message behavioral description file (drawing 38). This is carrying out one copy and the directions outputted to the paper of A4 to the «APEX-KSP» printer based on description of a job ticket with the original manuscript image size. The 18th line is an actual print output command from the 15th line and a processing result is added to the result sheet r.

[0201] 7.5-4 The 19th line of a message behavioral description file (drawing 38) is a storing process to an information file as a result of the conveyance content block of an operation result.

The 20th line is processing which replies a control information file, a behavioral description file, a history information file and the message as for which a result includes an information file to the job ticket server device 111 which is an originator.

[0202] 7.6. Return of job ticket processing result.

[0203] 7.6-1 The message which was processing the job ticket performs all processings of the carried job ticket (from the 12th line to the 14th line of drawing 34) making delete the job ticket of a conveyance content block (the 15th line).

[0204] 7.6-2 And processing of 2 jobs of description is completed to a job ticket and perform a standby process until both of information files come to hand, as a result of corresponding to each job. Whenever the message based on the job of the job ticket is completed, as a result of receiving a report, an information file is an information file as a result of an own conveyance content block.

[0205] 7.6-3 By the 20th line processing of the message behavioral description file of drawing 34, the message which includes a control information file, a behavioral description file and a history information news file is transmitted to the client device 101 which is an originator.

[0206] 7.6-4 In the client device 101, receive the returned message in order in the message processing part 32 and perform reception record in the message

interpretation execution part 1024, verification processing and authenticating processing of User Information. And the user who created the job ticket is notified of the message processing result having returned through the information display part 34 in a client device and message processing is completed.
[0207]
[Effect of the invention] In the process in which according to the message communication method and message communication equipment of this invention the message includes the information about the contents of processing performed by cooperating at several different stations and this message is delivered between stations one by one, the cooperation of processing between stations of the station which received the message is achieved by interpreting a message, performing processing of charge and passing a message to the next station. Network resources can be utilized effectively and complicated processing can also be easily realized by creating a message. For example, not to mention the re output of a changed document in printer form, the processing which describes a maker, a creation date and document information like a document name and registers a manuscript document into a file server device, 1 page of processing which specifies the editing processing of number of copies, an output paper and scaling and outputs the document to a desired print server is corrected among the processing

performed at once and the document already changed and kept in printer form, it re-registers and execution of processing in which it outputs to a desired print server is achieved at once with easy directions. Since the communication device of this invention is the equipment configuration of adding the message processing part which provides a common function to stations, such as each client, each server device, etc. linked to a network, without adding a major change to the existing network environment, also, the environment can be used as it is and the system of this invention can be built.

[0208] The message communication by this invention divides a message into the mentioned above four message component part omissible, respectively, since processing of the default of each message component part can be defined clearly and description of an unimportant portion and the portion same each time can be excluded, at the first station using message processing, it becomes possible to assemble and send a message easily.

[0209] Since this invention has the function to use a plurality of kinds of existing network communication means, about transmission and reception of a message, the correspondence procedure and device of a message independent of the kind of the printer and filing device linked to a network, the network connection method and an operating system can be obtained.

[0210] Since this invention can describe and direct message activity simple with the «job ticket» described to the conveyance content block other than the program of the message behavioral description part which describes message activity, in the client device using message processing, it is possible to assemble and send the message which processes desired easily.

[0211] Since this invention performs common message processing to each device on a network, it makes it a technical problem introduction of a new device and for change to become easy and to enable construction of a network system freely by providing a consistent correspondence procedure.

[0212] Since this invention obtains the information on each station on a network with a database and a desired transmission destination station can be determined, the determination of a transmission destination station which makes the load of resources reduce is achieved, the throughput which can be simultaneously performed by making such a decision is made to increase and it is possible as the whole system to accelerate processing as a result.

[0213] This invention can realize all of message handling or many of parts using software and can lower the expense and a man day generated as a result.

[Brief description of the drawings]

[Drawing 1] is the connection configuration drawing of each device of the example of a system for describing an embodiment

[Drawing 2] is the drawing showing the example of composition of the outline of the system which uses this invention

[Drawing 3] is the drawing showing the composition of the outline of a client device

[Drawing 4] is the drawing showing the composition of the outline of an edit server device

[Drawing 5] is the drawing showing the composition of the outline of a picture file server device

[Drawing 6] is the drawing showing the composition of the outline of a database server device

[Drawing 7] is the drawing showing the composition of the outline of a print server device

[Drawing 8] is the drawing showing the composition of the outline of a job ticket server device

[Drawing 9] is the drawing showing the composition of the message processing part which does not have a job ticket server function

[Drawing 10] is the drawing showing the composition of the message processing part which has a job ticket server function

[Drawing 11] is the drawing showing the composition of a station name

[Drawing 12] is the drawing showing the composition of a user name and a station name

[Drawing 13] is the drawing showing the composition of Server Name

[Drawing 14] is the drawing showing the composition of document data

[Drawing 15] is the drawing showing the managing structure of a database

[Drawing 16] is the drawing showing the example of the contents of each table

[Drawing 17] is the drawing showing the structure of a picture file server

[Drawing 18] is the drawing showing the classification of the intermediate format for edit

[Drawing 19] is the drawing for which the structure of a middle format file is shown, (a) is a drawing when input preservation format is JPEG and (b) shows the case where input preservation format is PostScript, respectively.

[Drawing 20] is the drawing showing the general composition of a message

[Drawing 21] is the drawing showing the abbreviation of the component of a message

[Drawing 22] is the drawing showing the example of job ticket message composition of component default

[Drawing 23] is the drawing showing the identifying method of the file by the composition of a name, (a) is a control information file, (b) show a behavioral description file, (c) shows a history control file and (d) shows the case of a conveyance content file.

[Drawing 24] is the drawing showing the identifying method of the file by the contents of the header unit of a file, (a) is the header of a control information file, (b) shows the case of the header of a behavioral description file and (c) is the header of a history control file.

[Drawing 25] is the drawing showing the identifying method of the file by the contents of the header unit of a file, (a) shows the header of a job ticket file, (b) shows the header of a result information file and (c) shows the header of a document file (PostScript) file.

[Drawing 26] is the drawing showing the example of specification of the message transmission point, (a) is the example of specification of the transmission destination of the message according to an electronic mail means, (b) is the example of specification of the message transmission point according to a network file transfer means, (c) is the example of specification of the transmission destination of the message according to a network printing means, (d) shows the example of specification of the transmission destination of the message by the Internet file transfer means, respectively.

[Drawing 27] is the drawing showing the example of a screen display of a job ticket preparing program

[Drawing 28] is the operation outline drawing of a job ticket which performs 2 jobs simultaneously

[Drawing 29] is the drawing showing the example of contents of a control information file

[Drawing 30] is the drawing showing the example of contents of a history control file

[Drawing 31] is the drawing showing the example of contents of an information file as a result of a conveyance content block

[Drawing 32] is the drawing showing the example of contents of the search results file of a network database

[Drawing 33] is the drawing showing the example 1 (search transmission of data) of contents of a behavioral description file

[Drawing 34] is the drawing showing the example 2 (processing of a job ticket) of contents of a behavioral description file

[Drawing 35] is the drawing showing the example 3 (print of a document) of contents of a behavioral description file

[Drawing 36] is the drawing showing the example 4 (edit print of a document) of contents of a behavioral description file

[Drawing 37] is the drawing showing the example 5 (input of a document) of contents of a behavioral description file

[Drawing 38] is the drawing showing the example 6 (print of a document) of contents of a behavioral description file

[Drawing 39] is the drawing showing the example 1 (the print of a document, the print of a document) of contents of the job ticket file of a conveyance content block

[Drawing 40] is the drawing showing the example 2 (the input of a document, the print of a document) of contents of the job ticket file of a conveyance content block

[Drawing 41] is the drawing showing the example of contents of the document file of a conveyance content block

[Description of numerals]

101… A client device,

111, 112 … Job ticket server device,

121, 122 … A picture file server device,

131… A database server device,

141, 142… A print server device,

151, 152… A printer,

171, 172… LAN,

181, 182… A router,

191… ATM line

Drawing 1

図1

171 181 191 182 172

ルータ   ルータ

ksp.fx.jpドメイン

nki.fx.jpドメイン 112

ジョブチケットサーバ装置

| LAN
データ
通信部 | メッ
セージ
処理部 | ジョブチ
ケットサー
バ機能部 |

kayo.nki.fx.co.jp
サーバ名:JT-NKI

クライアント装置 101

| LAN
データ
通信部 | メッ
セージ
処理部 | クライ
アント
機能部 |

renoir.ksp.fx.co.jp

ジョブチケットサーバ装置 111

| LAN
データ
通信部 | メッ
セージ
処理部 | ジョブチ
ケットサー
バ機能部 |

サーバ名:
JT-KSP

mari.ksp.fx.co.jp

画像ファイルサーバ装置 122

| LAN
データ
通信部 | メッ
セージ
処理部 | 画像ファイ
ルサーバ機
能部 |

melmo.nki.fx.co.jp
サーバ名:IDB-NKI

画像ファイルサーバ装置 121

| LAN
データ
通信部 | メッ
セージ
処理部 | 画像ファイ
ルサーバ機
能部 |

サーバ名:
IDB-KSP

megu.ksp.fx.co.jp

編集サーバ装置 161

| LAN
データ
通信部 | メッ
セージ
処理部 | 編集サーバ
機能部 |

jun.nki.fx.co.jp
サーバ名:EDIT-NKI

データベースサーバ装置 131

| LAN
データ
通信部 | メッ
セージ
処理部 | データベー
スサーバ機
能部 |

サーバ名:
RDB-KSP

sally.ksp.fx.co.jp

プリントサーバ装置1 141

| LAN
データ
通信部 | メッ
セージ
処理部 | プリント
サーバ機能
部 |

プリンタ 151

プリンタ名：APEX-KSP

miki.ksp.fx.co.jp

プリントサーバ装置2 142

| LAN
データ
通信部 | メッ
セージ
処理部 | プリント
サーバ機能
部 |

プリンタ 152

プリンタ名：DOCUTECH-KSP

akko.ksp.fx.co.jp

Drawing 2

図2

クライアント
クライアント
プリンタ プリント サーバ装置
プリンタ プリント サーバ装置

201

ジョブチケット サーバ装置
編集 サーバ装置
画像ファイル サーバ装置

ジョブチケット サーバ装置
クライアント
プリンタ プリント サーバ装置
プリンタ プリント サーバ装置

202

入力 サーバ装置
編集 サーバ装置
画像ファイル サーバ装置
データベース サーバ装置

クライアント
クライアント
プリンタ プリント サーバ装置
プリンタ プリント サーバ装置

203

入力 サーバ装置
編集 サーバ装置
画像ファイル サーバ装置
データベース サーバ装置

Drawing 13

サーバ名 図13

JT-KSP@ksp.fx.or.jp

サーバ名 ドメイン名

Drawing 3

クライアント装置の構成　　　　　　　図3

```
┌──────────┐ 32    ┌──────────┐ 33   ┌──────────┐ 34
│ メッセージ │──────│ データ処理 │─────│ 情報表示部 │
│  処理部   │       │  /制御部   │      └──────────┘
└──────────┘       └──────────┘
      │                   │          ┌──────────┐ 35
      │                   └──────────│ 情報入力部 │
┌──────────┐ 31                      └──────────┘
│   LAN    │
│ データ通信部│
└──────────┘
      │
   接続器へ
```
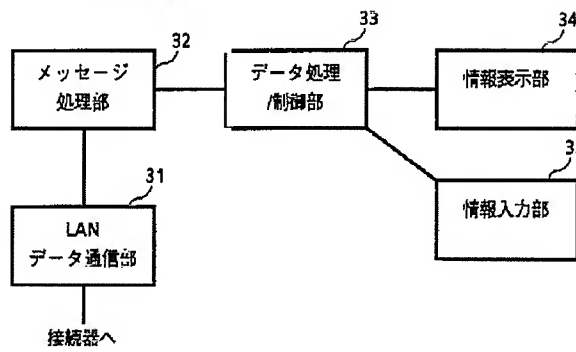
Drawing 8

ジョブチケットサーバ装置の構成　　　図8
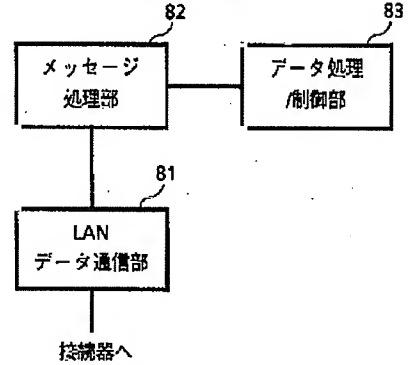
```
┌──────────┐ 82    ┌──────────┐ 83
│ メッセージ │──────│ データ処理 │
│  処理部   │       │  /制御部   │
└──────────┘       └──────────┘
      │
┌──────────┐ 81
│   LAN    │
│ データ通信部│
└──────────┘
      │
   接続器へ
```

Drawing 4

編集サーバ装置の構成　　　　　図4

```
┌──────────┐ 42    ┌──────────┐ 43   ┌──────────┐ 44
│ メッセージ │──────│ データ処理 │─────│ 入出力画像 │
│  処理部   │       │  /制御部   │      │ 一時記憶部 │
└──────────┘       └──────────┘      └──────────┘
      │                   │
┌──────────┐ 41                 画像編集処理部      45
│   LAN    │            ┌─────────────────────────┐
│ データ通信部│            │ ┌──────┐ ┌──────┐ ┌──────┐│
└──────────┘            │ │拡大縮小│ │圧縮 │ │形式変換││
      │                 │ │ 回転  │ │伸長 │ └──────┘│
   接続器へ              │ └──────┘ └──────┘         │
                        │ ┌──────┐ ┌──────┐ ┌──────┐│
                        │ │色空間変換│ │色階調 │ │PLD描画││
                        │ └──────┘ │ディザ変換│└──────┘│
                        │           └──────┘         │
                        └─────────────────────────┘
            ┌┄┄┄┄┄┄┄┄┐ 46
            ┆  画像   ┆
            ┆ 蓄積部  ┆
            └┄┄┄┄┄┄┄┄┘
```

Drawing 11

ステーション名　　　　　図11

renoir.ksp.fx.or.jp

```
┌──────┐          ┌──────┐
│ 装置名 │          │ドメイン名│
└──────┘          └──────┘
```

Drawing 5

画像ファイルサーバ装置の構成　　図5

52
メッセージ
処理部

53
データ処理
/制御部

54
入出力画像
一時記憶部

55
画像
蓄積部

51
LAN
データ通信部

接続器へ
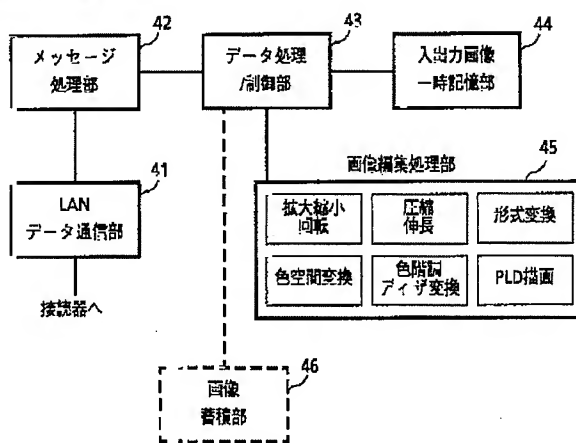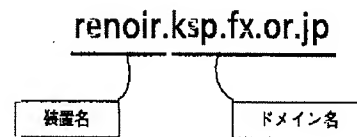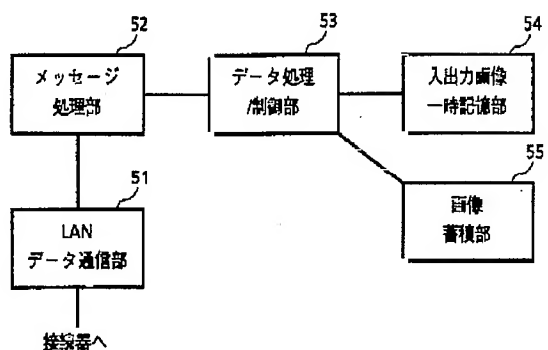
Drawing 9

メッセージ処理部の内部構成-1(ジョブチケットサーバ機能なし)　　図9

91
LAN
データ通信部

921
メッセージ
受信部

922
メッセージ
送信部

923
メッセージ
解釈実行部

924
ローカル
データベース部

93
データ処理
制御部へ
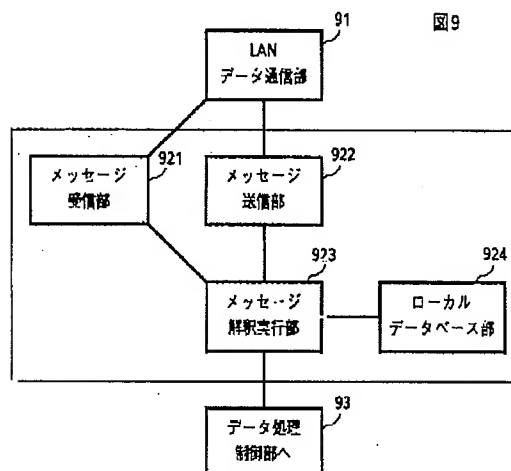
Drawing 27

ジョブチケット作成プログラムの画面表示例　　図27

111
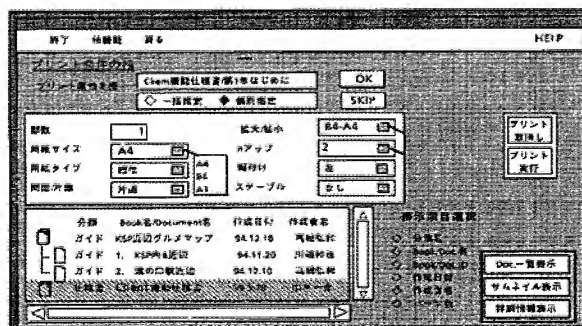
Drawing 7

プリントサーバ装置の構成　　　　　図7

```
              72                   73                    74
   ┌──────────┐          ┌──────────┐          ┌──────────┐
   │ メッセージ │──────────│ データ処理 │──────────│ 入出力画像 │
   │  処理部   │          │ /制御部   │          │ 一時記憶部 │
   └──────────┘          └──────────┘          └──────────┘
        │                        \
        │                         \            ┌──────────┐ 76
      75│                          \───────────│ プリンタ接続部 │
   ┌──────────┐                               └──────────┘
   │   LAN     │                                    │
   │ データ通信部 │                                    │
   └──────────┘                               プリンタへ
        │
     接続器へ
```
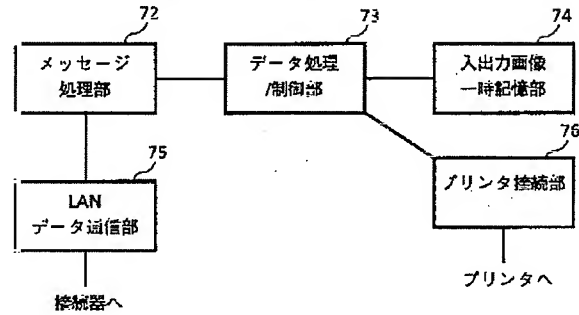
Drawing 12

ユーザ名とステーション名　　　図12

abe@renoir.ksp.fx.or.jp

ユーザ名　　　　　　　　　　ステーション名

Drawing 14

文書データの構造　　　　　図14
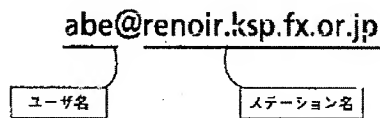
```
┌────────┐        ┌──────────────┐        ┌────────┐
│ ブックA  │────────│ ドキュメント-1(A4) │────────│ ページ-1 │
│        │        └──────────────┘        │ ページ-2 │
│        │        ┌──────────────┐        │ ページ-3 │
│        │────────│ ドキュメント-2(A4) │        │    :    │
│        │        └──────────────┘        └────────┘
│        │────────┌──────────────┐
└────────┘        │ ドキュメント-3(A4) │
                  └──────────────┘
┌────────┐
│ ブックB  │        ┌──────────────┐
│        │────────│ ドキュメント-4(B4) │
│        │        └──────────────┘
│        │        ┌──────────────┐
│        │────────│ ドキュメント-5(A4) │
└────────┘        └──────────────┘
┌────────┐
│ ブックC  │        ┌──────────────┐
│        │────────│ ドキュメント-6(B4) │
│        │        └──────────────┘
└────────┘
```
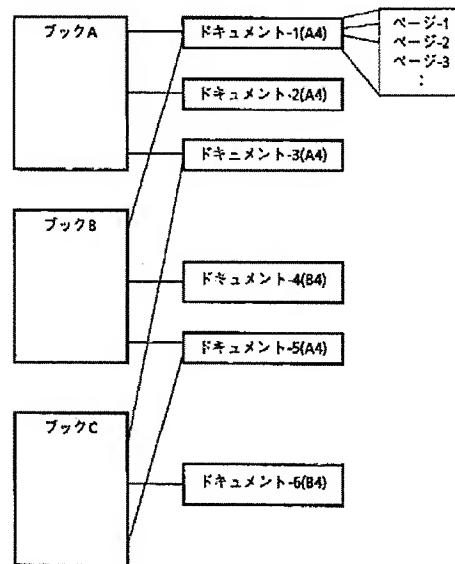
Drawing 15

データベースの管理構造図　　　　図15

ブックテーブル
ブックID
ブック名
分類コード
所有者ID
コメント

ブック構成テーブル
ブックID
ブック内連番
文書ID

ユーザテーブル
ユーザID
アカウント名
パスワード
姓
名

ドキュメントテーブル
文書ID
文書名
作成者ID
登録日時
文書サイズ
ページ数
コメント
アクセス者ID
アクセス日時

ページテーブル
文書ID
ページ番号
サムネイル*

分類テーブル
分類コード
分類名

イメージテーブル
文書ID
イメージタイプ
編集方法
ファイルサイズ
ホスト名
ディレクトリ名

ステーションテーブル
装置ID
接続番号
装置名
インタフェイス名
IPアドレス
所属ネットグループ
装置種別
コメント

接続機器テーブル
装置ID
装置内連番
接続機器名
接続機器属性
接続機器状態

接続機器テーブル
Fromネットグループ
Toネットグループ
接続順
通過ネットグループ

★サムネイル；
クライアント検索画面表示用の、縮小した画像データ

113

Drawing 10

メッセージ処理部の内部構成(ジョブチケットサーバ機能あり)　　図10
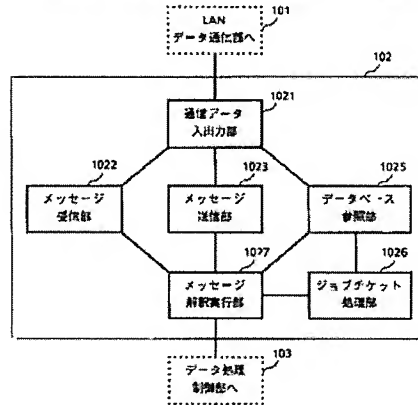
Drawing 16

各テーブルの内容の例　　　　図16

★ MID：編集用中間フォーマット

Drawing 17

画像ファイルサーバの構造　　　図17

Drawing 18

Drawing 19

編集用中間フォーマット　　　図18
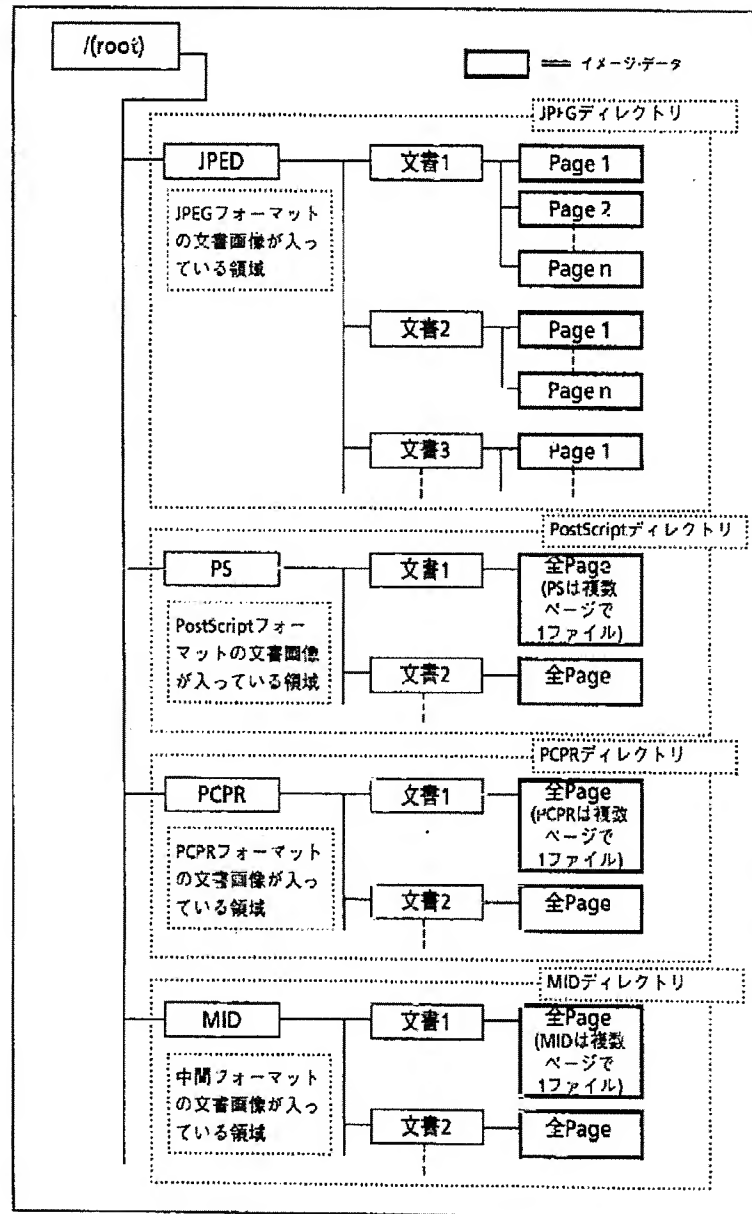
入力元媒体	画位の内容	入力ファイルフォーマット
イメージスキャナ	カラー写真絵	JPEG
イメージスキャナ	カラー文字	LZ
イメージスキャナ	白黒写真	JPEG
イメージスキャナ	白黒文字	G3
ファイル	JPEG画色	JPEG
ファイル	PhotoCD	PhotoCD
ファイル	ワープロ文書	PostScript
ファイル	コンピュータグラフィックス	LZ
ファイル	カラー写真絵	JPEG
ファイル	グレー写真絵	JPEG
ファイル	白黒アイザ写真絵	LZ

181　　182　　183

中間フォーマットファイルの構造図　　図19

```
┌─────────────────────────┐
│        ヘッダー部分          │ ─ 191
│  ┌───────────────────┐  │
│  │ 内部ファイルの形式に関す │  │ ─ 191a
│  │ る情報              │  │
│  ├───────────────────┤  │
│  │ 1つ目の内部ファイルの開始 │  │ ─ 191b
│  │ 位置と大きさに関する情報  │  │
│  ├───────────────────┤  │
│  │ 1つ目の内部ファイルの開始 │  │
│  │ 位置と大きさに関する情報  │  │
│  ├───────────────────┤  │
│  │ 1つ目の内部ファイルの開始 │  │
│  │ 位置と大きさに関する情報  │  │
│  └───────────────────┘  │
├─────────────────────────┤
│   1つ目のJPEG内部ファイル    │ ─ 191
├─────────────────────────┤
│   2つ目のJPEG内部ファイル    │ ─ 192a
├─────────────────────────┤
│   3つ目のJPEG内部ファイル    │ ─ 192b
└─────────────────────────┘
```

(a)入力保存形式がJPEGの場合

```
┌─────────────────────────┐
│        ヘッダー部分          │ ─ 193
│  ┌───────────────────┐  │
│  │ 内部ファイルの形式に関する │  │ ─ 193a
│  │ 情報                │  │
│  ├───────────────────┤  │
│  │ PostScript内部ファイルの開 │  │ ─ 193b
│  │ 始位置と大きさに関する情報 │  │
│  └───────────────────┘  │
├─────────────────────────┤
│   PostScript内部ファイル     │ ─ 194
└─────────────────────────┘
```
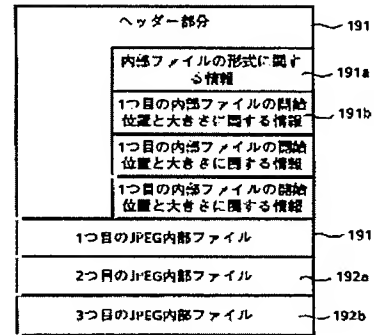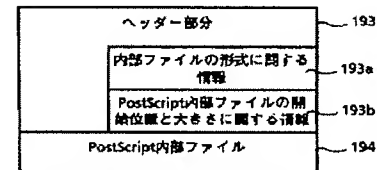
(b)入力保存形式がPostScriptの場合

Drawing 20

メッセージの一般的な構成　　図20

```
┌──────────────┐ 2011        制御情報部                           201
│ 制御付帯ファイル │          メッセージの属性と動作記述プログラム
└──────────────┘          の変数の現在の値、次に実行する行番号

┌──────────────┐ 2021        動作記述部                           202
│ 動作記述ファイル │          動作記述プログラムが入っている
└──────────────┘

┌──────────────┐ 2031        履歴管理部                           203
│ 履歴管理ファイル │          メッセージの動作履歴が入っている
└──────────────┘

┌──────────────┐ 2041        運搬内容部                           204
│ 運搬内容ファイル-1│          メッセージの運搬内容が入っている
└──────────────┘

┌──────────────┐ 2042   ┌──────────────┐ 204a
│ 運搬内容ファイル-2│       │  運搬内容部の例    │
└──────────────┘       │ ジョブチケット・ファイル│
                         └──────────────┘

                         ┌──────────────┐ 204b
                         │  運搬内容部の例    │
                         │  計算状態ファイル   │
┌──────────────┐ 2043  └──────────────┘
│ 運搬内容ファイル-n│
└──────────────┘       ┌──────────────┐ 204c
                         │  運搬内容部の例    │
                         │   文書ファイル     │
                         └──────────────┘
```
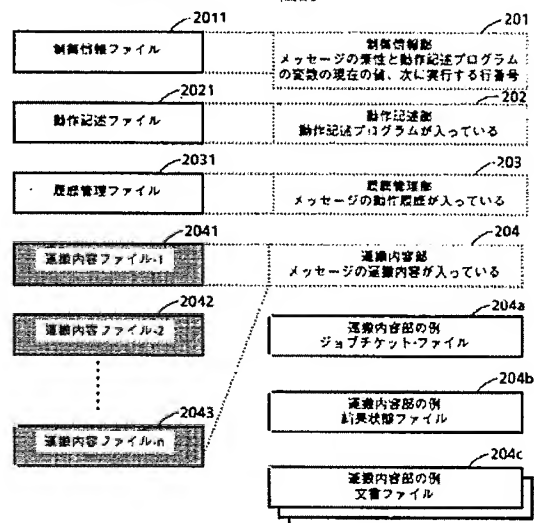
Drawing 25

ファイルの内容による区別(運用内容別)　　図25

(a) ジョブチケットファイルのヘッダ

```
#% JobTicket-1.00
.........
```

(b) 結果情報ファイルのヘッダ

```
#% Result-1.00
.........
```

(c) 文書ファイルのヘッダ(PostScriptファイルの内容例)

```
%! PS-Abobe-3.0  EPSF-2.0
.........
```

Drawing 23

ファイルの名前による区別　　　図23

(a) 制御情報ファイル
　　　C-メッセージ識別名、またはメッセージ識別名.CTL
　　ファイル名の例)
　　　　C-filename,C-123455,filename.CTL, 123456.CTL

(b)動作記述ファイル
　　　D-メッセージ識別名または、メッセージ識別名.DRV
　　ファイル名の例)
　　　　D-filename,D-123456,filename.DRV, 123456.DRV

(c) 履歴管理ファイル
　　　L-メッセージ識別名または、メッセージ識別名.LOG
　　ファイル名の例)
　　　　L-filename,L-123456,filename.LOG, 123456.LOG

(d) 運用内容ファイル
　　　O-n-メッセージ識別名または、メッセージ識別名.ojn
　　ファイル名の例)
　　　　O-1-filename,O-1-123456,filename.OJ1, 123456.LOG1OJ1,123456.OJ2

Drawing 24

ファイルの内容による区別　　　図24

(a) 制御情報ファイルのヘッダ

```
#% Control-1.00
.........
```

(b) 動作記述ファイルのヘッダ

```
#% Drive-1.00
.........
```
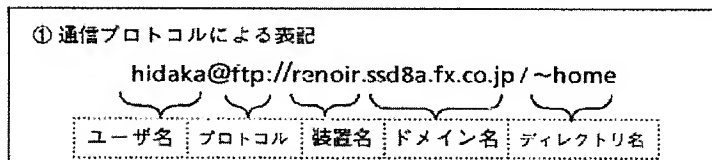
(c) 履歴管理ファイルのヘッダ

```
#% Log-1.00
.........
```

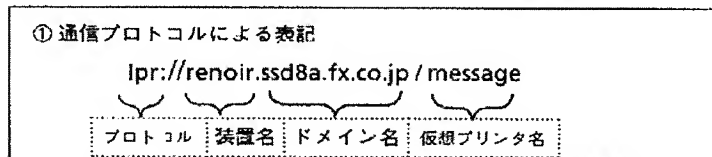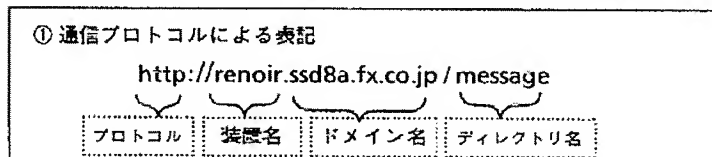# Drawing 26

メッセージ送信先の指定例　　　　図26

(a) 電子メール手段によるメッセージの送信先

① 電子メール・アドレスによる表記

hidaka@renoir.ssd8a.fx.co.jp

| ユーザ名 | 装置名 | ドメイン名 |

② 通信プロトコルによる表記

hidaka@smtp://renoir.ssd8a.fx.co.jp/

| ユーザ名 | プロトコル | 装置名 | ドメイン名 |

(b) ネットワーク・ファイル転送によるメッセージの送信先

① 通信プロトコルによる表記

hidaka@ftp://renoir.ssd8a.fx.co.jp / ~home

| ユーザ名 | プロトコル | 装置名 | ドメイン名 | ディレクトリ名 |

(c) ネットワーク・プリント手段によるメッセージの送信先

① 通信プロトコルによる表記

lpr://renoir.ssd8a.fx.co.jp / message

| プロトコル | 装置名 | ドメイン名 | 仮想プリンタ名 |

(d) インターネット・ファイル転送手段によるメッセージの送信先

① 通信プロトコルによる表記

http://renoir.ssd8a.fx.co.jp / message

| プロトコル | 装置名 | ドメイン名 | ディレクトリ名 |

Drawing 6

データベース・サーバ装置の構成　　図6
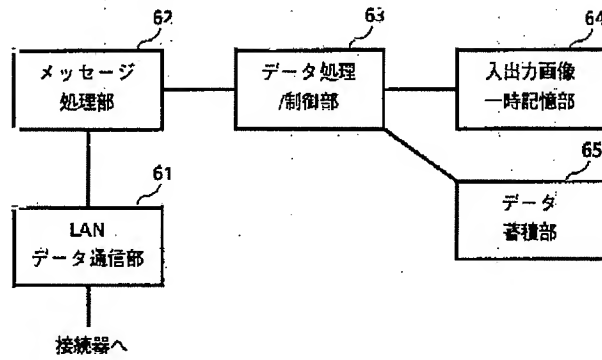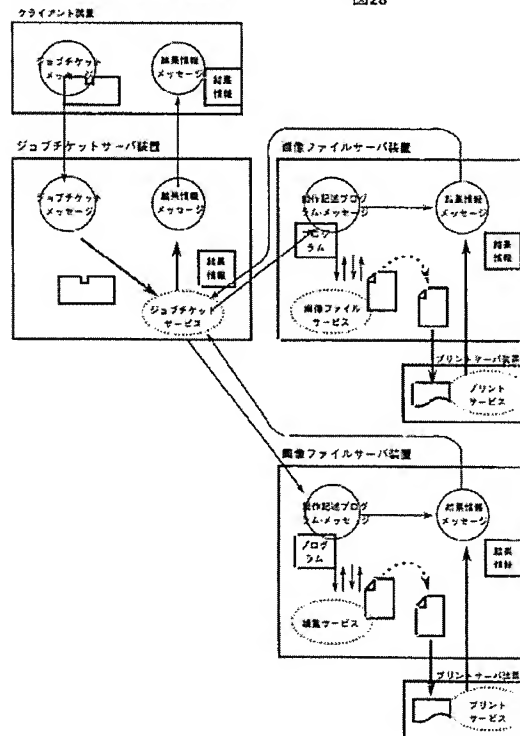

Drawing 28

ジョブチケット処理の動作概要図　　　図28

Drawing 29

```
 1:  #% Control-1.00
 2:  [ORIGINATOR]
 3:  DATE=3/28/1996*10:55:00
 4:  USER=abe
 5:  PASSWORD=abe
 6:  HOME=/home/abe
 7:  PROTOCOL=SMTP,FTP
 8:  SMTP=smtp://msg@renoir.ksp.fx.co.jp/(129.249.53.189)
 9:  FTP=ftp://abe@renoir.ksp.fx.co.jp/~msg(129.249.53.189)
10:
11:  [STATION]
12:  RETURN=smtp://msg@renoir.ksp.fx.co.jp/(129.249.53.189)
13:  FROM=smtp://msg@mari.ksp.fx.co.jp/(129.249.53.121)
14:  TO=smtp://msg@megu.ksp.fx.co.jp/(129.249.53.155)
15:  TARGET=Alive,FTPClient
16:
17:  [DRIVE-VALUE]
18:  PS.int.count=0
19:  PS.station.dost=smtp://msg@renoir.ksp.fx.co.jp/(129.249.53.189)
20:  ftp://abe@renoir.ksp.fx.co.jp/~msg(129.249.53.189)
21:  PS.stringlist.domains="ksp.fx.co.jp","nki.fx.co.jp"
22:  PS.csvSheet.searchImage._VALUE=
23:  PS.csvSheet.searchImage._RETURN=29,2
24:  PS.csvSheet.searchImage.csvSheet.r~
25:  "12340001","megu.ksp.fx.co.jp","/1db/PS/12340001.ps"
26:  "12340002","megu.ksp.fx.co.jp","/1db/PS/12340002.ps"
27:  "12340004","melmo.ksp.fx.co.jp","/1db/PS/12340004.ps"
28:  PS.for18.i=0
29:  PS.csvSheet r=
30:  PS.for28.i=0
31:
32:  [DRIVE-LINE]
33:  NEXT=21
34:
35
```

Drawing 22

構成要素省略時のジョブチケットメッセージ構成例

図22
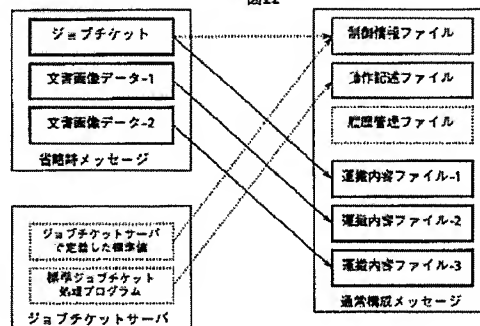
Drawing 30

```
 1:  #% Log-1.00
 2:  [HISTORY]
 3:  3/28/1996*11:01:00 MASSAGE SENT(smtp)
 4:   AT smtp://msg@renoir.ksp.fx.co.jp/(129.249.53.189)
 5:   TO smtp://msg@mari.ksp.fx.co.jp/(129.249.53.121)
 6:
 7:  3/28/1996*11:02:00 MESSAGE RECEIVED(smtp)
 8:   AT smtp://msg@renoir.ksp.fx.co.jp/(129.249.53.121)
 9:   FROM smtp://msg@mari.ksp.fx.co.jp/(129.249.53.189)
10:
11:  3/28/1996*11:04:00 MESSAGE USER abe AUTHORIZED OK
12:
13:  3/28/1996*11:08:00 MESSAGE SENT(smtp)
14:   AT smtp://msg@mari.ksp.fx.co.jp/(129.249.53.121)
15:   TO smtp://msg@megu.fx.co.jp/(129.249.53.155)
16:
17:
18:
19:
20:
21:
22:
23:
24:
25:
26:
27:
28:
29:
30:
31:
32:
33:
34:
35
```

Drawing 31

```
 1:  #% Result-1.00
 2:  Account abe
 3:  Result "lpr://renoir.ksp.fx.co.jp/message-result"
 4:  Date 3/28/1996*10:55:00
 5:  ResultName 11110021-1
 6:
 7:  200 PORT command successful.
 8:  150 Binary data connection for 12340001.ps (129.249.53.155.1515)
 9:  226 Transfer complete.
10:  local: 12340001.ps remote: 12340001.ps
11:  1820 bytes sent in 0.039 seconds (46 Kbytes/s)
12:
13:  ResultEnd 11110021-1
14:
15:
16:
17:
18:
19:
20:
21:
22:
23:
24:
25:
26:
27:
28:
29:
30:
31:
32:
33:
34:
35
```

Drawing 32

ネットワークデータベースの検索結果例　図32

```
 1:  address=129.249.53.189
 2:  hostname=harem
 3:  user: msd-adm
 4:  directory=/home/msg
 5:  protocol=SMTP,FTP,LPR,HTTP
 6:  SMTP=msg@renoir.ksp.fx.co.jp
 7:  FTP=hidaka@ftp://renoir.ksp.fx.co.jp/~home
 8:  LPR=lpr://renoir.ksp.fx.co.jp/message
 9:  HTTP=http://renoir.ksp.fx.co.jp/msgdir
10:
11:  server=JobTicket,ImageFile,PrintService
12:  JobTicket=JT1
13:  ImageFile=IDB1
14:  PrintService=DocuTech-KSP
15:
16:
17:
18:
19:
20:
21:
22:
23:
24:
25:
26:
27:
28:
29:
30:
31:
32:
33:
34:
35
```

Drawing 33

動作記述ファイルの例-1(データ検索転送)　図33

```
 1:  #% Drive-1.00
 2:
 3:  private static int count = 0;
 4:  private static station dest = Network.here;
 5:  stringList domains = {"ksp.fx.co.jp", "nk1.fx.co.jp"};
 6:
 7:  private static csvSheet searchImage(string domain) {
 8:    csvSheet r;
 9:    Network.setDatabaseDomain(domain);
10:    station s = Network.searchStation.byNear(
11:        Network.here, 1, alive|free|dbClient);
12:    Network.messageSend(me, s);
13:    Database.server = Network.searchServer.byNear(
14:        Network.here, 1, alive|free|dbServer);
15:    Database.open();
16:    Database.executeSQL("exec bookimage.searchbyname ¥
17:        '%仕様書%', 'PS'", r);
18:    for(int i; count < 10 && i < lineCount(r); i++) {
19:      Network.messageSend(me, Network.searchStation.byName(
20:        r[i][host]);
21:      r >= Network.FTPSend.bin(r[i][dir], dest, "abe");
22:      count++;
23:    }
24:    return(r);
25:  } // End of searchImage()
26:
27:  csvSheet r;
28:  for(int i = 0; i < listCount(domains); i++) {
29:    r += searchImage(domains[i]);
30:  }
31:  myObject.jobResult[0].text = r;
32:  Network.messageReturn();
33:
34:
35:
```

Drawing 34

動作記述ファイルの例-2(ジョブチケットの処理)　　　図34

```
 1: #% Drive-1.00
 2:
 3: station s - Network.searchStation.byNear(Network.here,
 4:     1, alive|free|dbClient);
 5: csvSheet r;
 6: job j;
 7:
 8: Network.messageSend(me, s);
 9: // message is moving now
10:
11: int c = myObject.jobTicket.count;
12: for(int i = 0; i < c; i++) {
13:     j - System.jobExecute(myObject.jobTicket[i]);
14: }
15: delete(myObject.jobTicket);
16:
17: for(int i = 0; i < c && ((j = System.jobWait()) > 0; i++) {
18:     myObject.jobResult[i] = j.jobResult[0];
19: }
20: Network.messageReturn();
21:
22:
23:
24:
25:
26:
27:
28:
29:
30:
31:
32:
33:
34:
35
```

Drawing 21

メッセージ組成要素の省略　　　図21

	制御情報部 ~211	動作記述部 ~212	履歴管理部 ~213	運搬内容部 ~214
①通常のメッセージ転送	必要	必要	必要	もしあれば運搬物
②初回のメッセージ転送	必要	必要	必要	もしあれば運搬物
③ジョブチケットのメッセージ転送	不要	不要	不要	ジョブチケット＋もしあれば運搬物
④結述状態のメッセージ転送	不要	不要	不要	省略可能な結果状態ファイル＋もしあれば運搬物

Drawing 35

動作記述ファイルの例-3(文書のプリント)　　　図35

```
1:  #% Drive-1.00
2:
3:  station s = Network.searchStation.byName(
4:      Network.serverToStation("IDB-KSP"));
5:  editOption e;
6:  printOption o;
7:  csvSheet r;
8:
9:  Network.messageSend(me, s);
10:
11: e.color = glay;
12: r = System.editPSMerge(e,
13:     "/tmp/$$-1.ps",
14:     "/IDB/PS/11110001",
15:     "/IDB/PS/11110100",
16:     "/IDB/PS/11120001");
17:
18: o.printerName = "DOCUTECH-KSP";
19: o.stationDomain = "ksp.fx.co.jp");
20: o.printerKind = "PS";
21: o.copy = 10;
22: o.plex = duplex;
23: o.sort = collate;
24: o.finishing = bindLeft:
25: o.paper = A4:
26: o.tray = topTray;
27: r += Network.print(o, "/tmp/$$-1.ps");
28: r += System.fileRemove("/tmp/$$-1.ps");
29: myObject.jobResult[0].text = r:
30: Network.messageReturn();
31:
32:
33:
34:
35
```

Drawing 36

動作記述ファイルの例-4(文書の編集プリント) 図36

```
 1: #% Drive-1.00
 2:
 3: Network.setDatabaseDomain("ksp.fx.co.jp");
 4: station s = Network.searchStation.byNear(Network.here, 1,
 5:     alive|free|editServer);
 6: editOption e;
 7: printOption o;
 8: csvSheet r;
 9:
10: Network.messageSend(me, s);
11:
12: e.nup = 2;
13: e.outputSize = A4;
14: e.scale = auto;
15: r = System.editToJPEG(e,
16:     "/tmp/$$-1.jpeg",
17:     "/IDB/MID/11110042");
18: e.inputSize = B4;
19: e.zoom = B4_A4;
20: r += System.editToJPEG(e,
21:     "/tmp/$$-2.jpeg",
22:     "/IDB/MID/11110043");
23: o.printerName = "APEX-KSP";
24: o.stationDomain = "ksp.fx.co.jp");
25: o.printerKind = "JPEG";
26: o.copy = 2;
27: o.sort = collate;
28: o.paper = A4;
29: r += Network.print(o, "/tmp/$$-1.jpeg", "/tmp/$$-2.jpeg");
30: r += System.fileRemove("/tmp/$$-1.jpeg", "/tmp/$$-2.jpeg");
31: myObject.jobResult[0].text = r;
32: Network.messageReturn();
33:
34:
35
```

Drawing 37

動作記述ファイルの例-5(文書の入力) 図37

```
 1: #% Drive-1.00
 2:
 3: station s = Network.searchStation.byName(
 4:     Network.serverToStation("EDIT-NXI.nki.fx.co.jp"));
 5: editOption e;
 6: printOption o;
 7: csvSheet r;
 8:
 9: Network.messageSend(me, s);
10:
11: r = System.editToMID(e, "/IDB/MID/11110045",
12:     myObject.document);
13: delete(myObject.document);
14:
15: s = Network.searchStation.byName(
16:     Network.serverToStation("IDB-KSP"));
17: r += Network.sendPrintFormat(s, "/IDB/MID/11110045",
18:     "11110045", JPEG|PS|PCPR);
19:
20: s = Network.searchStation.byNear(Network.here, 1,
21:     alive|free|dbClient);
22: myObject.jobResult[0].text = r;
23: Network.messageSend(me, s);
24:
25: Database.server = "RDB-KSP";
26: Database.open();
27: Database.executeSQL("exec doc.create ¥
28:     '11110045', '登録済み文書その1', 'ebe', '仕様書', ¥
29:     '電子出版に関する文書', r);
30:
31: myObject.jobResult[0].text += r;
32: Network.messageReturn();
33:
34:
35
```

Drawing 38

動作記述ファイルの例-6(文書のプリント)　図38

```
 1: #% Drive-1.00
 2:
 3: station s = Network.searchStation.byName(
 4:     Network.serverToStation("IDB-KSP"));
 5: editOption e;
 6: printOption o;
 7: csvSheet r;
 8:
 9: Network.messageSend(me, s);
10:
11: o.printerName = "APEX-KSP";
12: o.printerKind = "JPEG";
13: o.paper = A4;
14: o.copy = 1;
15: r += Network.print(o,
16:     "/IDB/JPEG/11110046-1.jpeg",
17:     "/IDB/JPEG/11110045-2.jpeg",
18:     "/IDB/JPEG/11110045-3.jpeg");
19: myObject.jobResult[0].text = r;
20: Network.messageReturn();
21:
22:
23:
24:
25:
26:
27:
28:
29:
30:
31:
32:
33:
34:
35
```

Drawing 39

運搬内容部のジョブチケットファイルの例-1(文書のプリント、文書のプリント)　図39

```
 1: #% JobTicket-1.00
 2: Account abe
 3: Result "lpr://renoir.ksp.fx.co.jp/message-result"
 4: Date 3/28/1996^09:50:00
 5: #--- 11110021
 6: JobName 11110021-1
 7: Print Book 11110021
 8: Database "RDB-KSP"
 9: ImageServer "IDB-KSP"
10: Printer "DOCUTECH-KSP"
11: copy 10
12: plex DUPLEX
13: finishing BIND-LEFT
14: JobEnd 11110021-1
15: #--- 11110022
16: JobName 11110022-2
17: Print Book 11110022
18: Database Domain("ksp.fx.co.jp")
19: EditServer ANY
20: Printer "APEX-KSP"
21: copy 2
22: nup 2
23: paper A4
24: sort TRUE
25: document 11110042
26: paper A4
27: document 11110043
28: paper A4
29: zoom B4_A4
30:
31:
32:
33:
34:
35
```

Drawing 40

Drawing 41

運搬内容部のジョブチケットファイルの例-2(文書入力, 文書のプリント)　図40

```
 1: #% JobTicket-1.00
 2: Account abe
 3: Password abe
 4: Result "abe@renoir.ksp.fx.co.jp"
 5: Database "RDB-KSP"
 6: ImageServer "IDB-KSP"
 7: Printer APEX-KSP
 8: Date 3/28/1996*10:55:00
 9: #--- 11110051-1
10: JobName 11110051-1
11: Input Document THIS
12: EditServer "EDIT-NKI.nki.fx.co.jp"
13: Format JPEG,PS,PCPR
14: Document.Name "登録済み文書その1"
15: Document.Owner abe
16: Document.Kind "仕様書"
17: Document.Comment "電子出版に関する文書"
18: JobEnd 11110051-1
19: #--- 11110051-2
20: JobName 11110051-2
21: Print Document THIS
22: copy 1
23: JobEnd 11110051-2
24:
25:
26:
27:
28:
29:
30:
31:
32:
33:
34:
35
```

運搬内容部の文書ファイルの例　　図41

```
#%!PS-Adobe-3.0 EPSF-2.0
%%Creator: Windows PSCRIPT
%%Title: Akane - D:¥...¥文書AKD:000
%%BoundingBox: 22 8 585 819
%%DocumentNeededResources: (atend)
%%DocumentSuppliedResources: (atend)
%%Pages: 0
%%BeginResource: procset Win35Dict 3 1
/Win35Dict 300 dict def Win35Dict begin/bd{bind def}bind def/in{72
mul}bd/ed{exch def}bd/ld{load def}bd/tr/translate ld/gs/gsave ld/gr
/grestore ld/M/moveto ld/L/lineto ld/mt/rmoveto ld/rlt/rlineto ld
/rct/rcurveto  ld/st/stroke  ld/n/newpath  ld/sm/setmatrix
ld/cm/currentmatrix
ld/cp/closepath ld/ARC/arcn ld/TR{65536 div}bd/lj/setlinejoin ld/lc
/setlinecap ld/ml/setmiterlimit ld/sl/setlinewidth ld/scignore false
def/sc{scignore{pop pop pop}{0 index 2 index eq 2 index 4 index eq
and{pop pop 255 div setgray}{3{255 div 3 1 roll}repeat
setrgbcolor}ifelse}ifelse}bd
/FC{bR bG bB sc}bd/TC{/bB ed/bG ed/bR ed}bd/HC{hR hG hB sc}bd/hC{
/hB ed/hG ed/hR ed}/PC{pR pG pB sc}bd/pC{/pB ed/pG ed/pR ed}bd/sM
matrix def/PenW 1 def/iPen 5 def/mxF matrix def/mxL matrix def/mxIE
matrix def/mxUF matrix def/fBE false def/iDevRes 72 0 matrix
defaultmatrix
dtransform dup mul exch dup mul add sqrt def/wSS 1 def/fPP false def
/SS{fPP{/SV save def}{gs}ifelse}bd/RS{fPP{SV restore}{gr}ifelse}bd
/FXfontcacheflush where{pop}{/FXfontcacheflush{}def}ifelse/FXGColl...
............ 以下省略
```